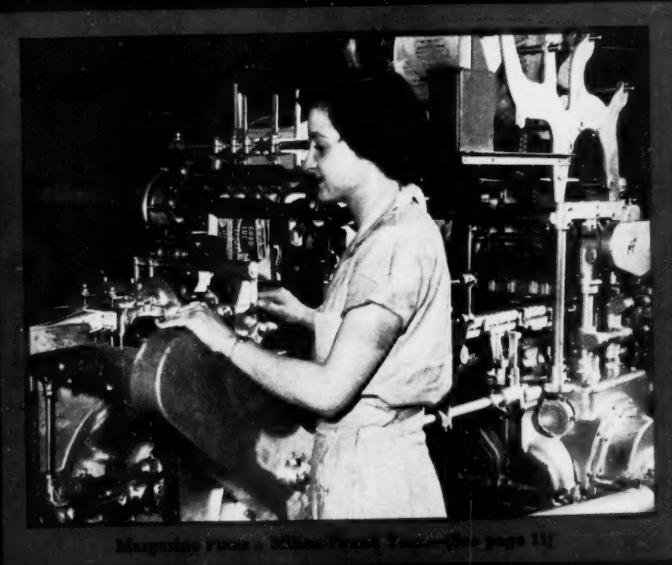


THE *Soybean Digest*

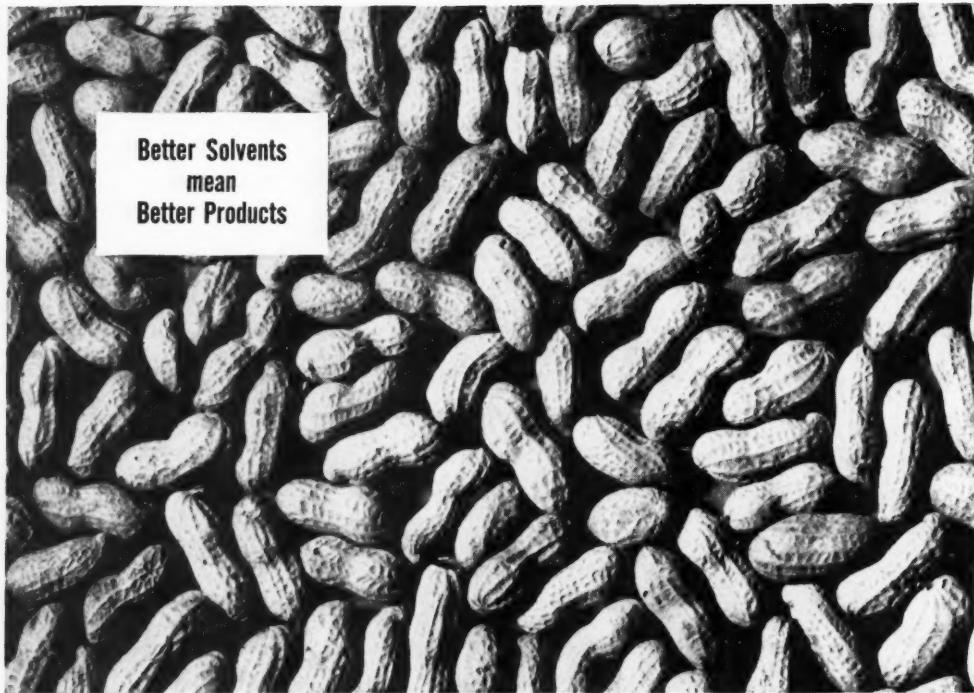


Margarine Fats & Soya Lecithin (see page 12)

Official Publication
AMERICAN SOYBEAN ASSOCIATION

VOLUME 11 • NUMBER 3

MARCH • 1951



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THE Soybean Digest

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MARCH, 1951

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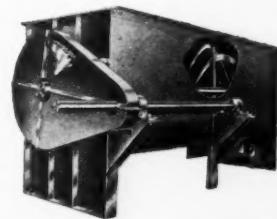
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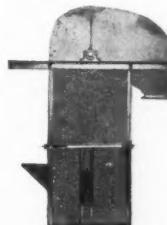
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EDITOR'S DESK

GOOD DEMAND FOR BEANS TO CONTINUE

Secretary Brannan has asked for a 16-million bale cotton crop in 1951, compared with 9-plus million in 1950. That size crop, if attained, can mean only decreased soybean acreage in the South and Midsouth areas. At the same time it will mean increased production of cottonseed, thus of cottonseed oil.

Farmers of the Midwest area are being asked to increase their corn acreage by about 6 million acres. That can only mean decreased soybean acreage in this area.

Domestic demand for meal is expected to remain strong, build up with increasing livestock numbers. Increased corn acreage means increased demands for protein to balance. Export demand for whole soybeans and for soybean products is expected to be greater during the coming year than during recent months.

It all adds up to continuing demand for soybeans in large quantity during the 1951 crop year. And to the probability that, in spite of predictions of a few individuals, soybeans will be selling at or near the ceiling prices, assuming the level of other prices remains at about present levels or increases slightly.

Growers of soybeans should make their plans accordingly. Apparent shortages of corn in some areas at planting time should not be allowed to overshadow the continuing demand for soybeans and soybean products. There very apparently will be no carry-over of 1950 crop beans when the first day of October arrives.

SOYBEAN SUPPORT PRICE ANNOUNCED

Acting, perhaps, on our recommendations in the February issue, Secretary Brannan has announced an average support price on 1951 crop soybeans of \$2.45 per bushel. This figure is based on 90 percent of parity as of Jan. 15, and compares with an average support price on 1950 crop soybeans of \$2.06 per bushel. Details will be administered in very much the same manner as previous years.

The support price is far below the present ceiling price of \$3.11 to \$3.15 per bushel at different production points. Unless changes are made the producer of soybeans knows that, assuming production of normal quality crop, he will receive not less than \$2.45 nor more than \$3.15 for his 1951 crop. Just where in that range prices will be at harvest time is dependent upon many factors over which the average producer has no control.

"MR. SOYBEAN" NEEDED IN CONGRESS

The great Midwest area of the United States is direly in need of an agricultural statesman—a man who is the kind of a leader around whom members of Congress and farm organizations might rally when the occasion presents itself. He should be, first of all, enough of a statesman to represent all of the people of the nation. He should be able to explain to them the viewpoint of agriculture, its needs and its demands. And he should be the leader of our Congressional delegation, the man upon whom they depend and to whom they look. He must

be a strong man—a reliable man—a broad-minded man—a man of decision and action.

The farmer of the Midwest is very inadequately represented in Washington at present. The cotton farmer knows that he can rely on his member of Congress or his Senator to represent his interests. If a crisis faces the crop, a delegation calls at the White House and their viewpoint prevails. If a Midwest crop faces a crisis, its needs go largely unheard because the members of Congress from that area are without a strong man about whom they can rally, and who can lead them. There is no organization, no unity of purpose, no common front. So, the cause is lost.

Soybeans supply more oil and more protein than any one other crop grown in our nation. Yet in all of Congress there has appeared no man who has been a champion of the crop, no man upon whom we could rely in every Washington move.

Such a man—Mr. Soybean himself—could do his nation, his constituents and himself a great service. We need volunteers.

WON'T GET THE DESIRED BEAN ACRES

In any program of ceiling prices there must be flexibility which will permit change as the occasion demands. We assume the present program provides for adjustments, and have been assured by the men in charge of administration that it does.

If Secretary Brannan wants 13 million acres of soybeans in 1951, as he had indicated, it appears that a change in ceiling prices will be necessary. Rumor has it that corn will be placed under a ceiling of about \$1.75 per bushel at the farm. Normal price relationship between corn and soybeans is 2:1—soybeans should sell at twice the price of corn to return the same net per acre.

Today's ceiling on soybeans means \$3.11 to \$3.15 to the grower. It would take \$3.50 to give a 2:1 ratio to corn. It is the belief of your editors that unless an adjustment is made in ceiling prices, we may well end up with large corn acreages and very small soybean acreages in the Midwest area.

We recognize that ceiling prices do not mean selling prices. However, corn is now selling at close enough to the ceiling price that soybeans are going to have to be allowed to move upward, or we will be faced with greatly reduced production of our major protein and oil crop. We doubt if it is good planning on the part of our government to allow shortages in fats and proteins when we are in a period of uncertainty as at present. This matter is being called to the attention of Washington officials in the Department of Agriculture and in the Economic Stabilization Agency. Any adjustments should be announced before planting time to have any effect on 1951 acreages.

FARM PRICE NOT ALL OF FOOD COST

We are told that Washington price control policy is to stave off new farm price ceilings as long as possible, and to try to get the law changed so lower ceilings can be set up. The pressure is on for low farm prices so city folks can have cheap food.

That the consumer can have cheap food under present conditions is an illusion of the first water. The spread between the farmer and the consumer is higher than it ever has been, due to taxes, labor and other costs. There is just no practical way to bring food costs down far as long as other costs stay up—even if you bankrupt the farmer in the process.

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ACTIVITIES OF YOUR ASSOCIATION

Asks Higher Ceiling on Soybean Oil

The necessity of maintaining the correct relationship between the price ceilings on soybeans and soy products and those of competing crops has been urged in a letter by Geo. M. Strayer, secretary-treasurer of the American Soybean Association, to Secretary of Agriculture Charles F. Brannan.

Strayer has asked for a ceiling price of 22½c per pound instead of the present ceiling of 20½c on crude soybean oil. The Association secretary-treasurer has also written to Senators and Congressmen in the soybean area pointing out the need for higher oil ceilings.

"During the 10-year period ending Jan. 1949 the average selling price of soybean oil basis Midwestern mills has been 12.89c a pound. During that same period the average selling price of cottonseed oil has been 13.88c per pound basis valley points, or an average price differen-

tial of .99c per pound," Strayer wrote Brannan.

"Present ceiling prices on the same two commodities are 20½c for crude soybean oil, 23½c for cottonseed oil. . . . This means a spread under the ceiling prices of 3½c per pound, as compared with the 10-year average of .99c.

"In 1951 . . . soybean acreage in most cotton areas where soybeans are also grown will be decreased materially to allow for the expansion in cotton.

"Rumors have established the contemplated ceiling price on corn at about \$1.75 per bushel basis farm points. If that figure is correct, then the price ratio between corn and soybeans will be far below normal, and the Midwest corn acreage will increase materially at the expense of soybean acreage. Net results of the cotton and corn acreage increases, then, will be greatly re-

duced soybean acreages in both the corn and cotton areas.

"If cotton and corn acreage are increased at the expense of soybean acreage there can but be a consequent reduction in the amount of protein meals available.

"We recommend that the ceiling price on soybean oil be allowed to move upward to approximately its historical relationship, namely about 1c below cottonseed oil. This change would allow for at least a portion of the adjustment in soybean prices which is going to be necessary to secure the desired acreage of soybeans in 1951."

ASA Director Howard L. Roach, Plainfield, Iowa, was recently in Washington, D. C. The first week in March President John W. Evans, Montevideo, Minn.; Director Ersel Walley, Fort Wayne, Ind.; and Strayer will go to Washington when contacts with Congressmen, U. S. Department of Agriculture officials and ASA officials will be made concerning the price control program and the defense effort as it applies to soybeans.

"6 Right Steps" Campaign

A campaign for a 1951 soybean crop to equal that of 1950 was kicked off Mar. 1 by the American Soybean Association.

U. S. Department of Agriculture is putting on the pressure for another big soybean crop in 1951 as part of the war effort. At the same time it is calling for greatly increased acreages of cotton, corn, wheat and other crops.

But the soybean producers do not want to be guilty of mining the soil in order to get the needed production. So the Association is putting the emphasis on the positive factor of increasing yield rather than acres this year.

The Association has published a leaflet entitled, "Six Right Steps to Soybean Production," which it is distributing through county agents, vocational agriculture teachers, on-the-farm veterans teachers and processors.

The six right steps as enumerated by the leaflet are: (1) best adapted variety; (2) seed protection; (3) weed control; (4) inoculation; (5) proper planting; and (6) combining.

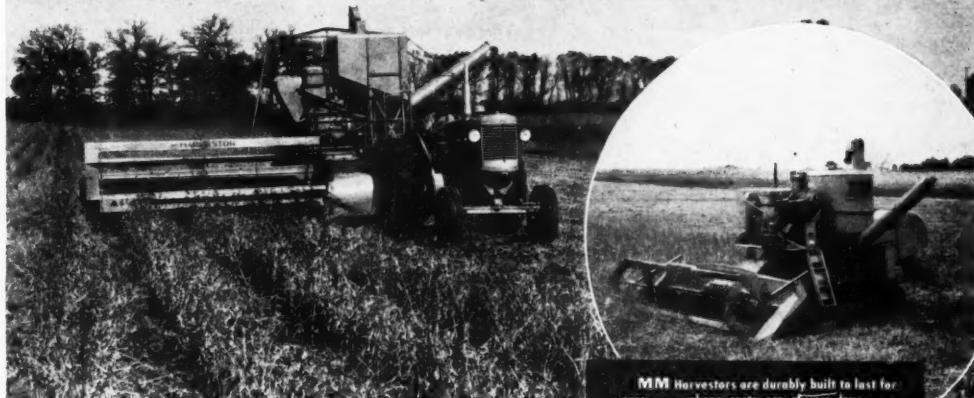
Copies are free. Why not write for yours today?

As a part of its campaign for higher per-acre production in 1951 the Association is also issuing a series of news releases to newspapers, radio stations and farm papers, urging

get more beans faster, easier, cleaner with



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Exclusive MM GRAIN PAN design prevents bunching of beans at sides or ends even on rolling land. MM CLEANING SHOE is automatically levelled for best cleaning position regardless of working tilt of the HARVESTOR. UNIT-MATIC POWER can be used for hydraulically lifting, lowering and varying height of cut.

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MINNEAPOLIS-MOLINE

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growers to practice the six right steps in 1951.

This is one of the most extensive campaigns of the sort ever put on by the Association and it should make its impact felt on 1951 production.

1951 Convention to Iowa

The 31st annual convention of the American Soybean Association comes to Iowa, the nation's second state in soybean production.

The convention locale has been selected by the board of directors and the time has been settled on as the week end following labor day.

Formal meetings will be held at Hotel Fort Des Moines in Des Moines, to be followed by a field day at Iowa State Experiment Station, Ames.

Exact dates of the convention will be announced in a later issue of the Soybean Digest.

Iowa committee in charge of making arrangements for the convention include Geo. M. Strayer, secretary-treasurer of the American Soybean Association; C. M. Gregory, Farmers Cooperative Co., Dike, Iowa; John Roach, Roach Soybean Mills, Plainfield, Iowa; John Sand, Marcus, Iowa; and C. R. Weber, Farm Crops Department, Iowa State College, Ames, Iowa.

Last ASA convention in Iowa was held in Cedar Rapids in 1943.

New Blue Book Edition

The 1951 Soybean Blue Book is now "in the works" and should reach you in a matter of days.

The book is 16 pages larger than

ever before. Directories of soybean processors, manufacturing concerns, using soy products in their operations and firms serving the industry are considerably larger this year.

A new feature this year is a chart prepared by General Mills, Inc., showing the utilization of soybeans. It is a more complete listing of the various uses of soybeans than anything heretofore attempted.

Additional copies may be purchased from American Soybean Association, Hudson, Iowa, for \$1 each.

Dimond Committee Head

Albert Dimond, Lovington, Ill., is now chairman of the producer-processor committee for repeal of the Illinois margarine laws. He succeeds Henry J. Cohn, Jr., Valley Farms, Inc., Carrollton, Ill. Cohn has resigned since he is moving to Florida where he will be in charge of a large farming operation for Valley Farms.

C. G. Simcox, Assumption, Ill., is the new member of the committee. Processor member is Norman Hulcher, Virden, Ill.

GROWERS

Carlson Illinois Winner

Carl L. Carlson, Roseville, was winner of the 10th annual Illinois 10-acre growing contest.

Carlson's yield, 48.66 bushels per acre, was under the 54.2 bushel all time record set by Alden Danielson,



Carl L. Carlson, Roseville, Illinois yield champion.

Leland, in 1949.

The Illinois contest scores on yield, cost of production, quality of seed and oil content.

Bert Bonwell, Chrisman, was second with a yield of only 33.74 bushels, but with a total score of 87.91, only a little below that of the champion. Bonwell had the lowest cost of production, \$336.07 for the 10 acres; and the highest oil content, 20.8 percent.

Third place winner was Robert A. Bacon, also of Roseville, whose 48.06 bushel yield was only a little below that of the champion.

High Producer in Iowa

Kenneth Taylor, Indianola, Iowa, soybean producer, was first place winner in the Iowa Master Soybean Growers Contest for 1950.

Taylor won the contest with five acres of the Adams variety that averaged 48.86 bushels per acre. He was awarded first place money, the title of Iowa Master Soybean Grower and the John Sand Trophy. Presentation was made by Geo. M. Strayer, secretary-treasurer of the American Soybean Association, at the first Iowa Crop Improvement Day at Ames Feb. 23.

Taylor's yield was higher than the 46.98 bushels of Albert Horras, of Richland, the Iowa champion last year. But it is somewhat under the 49.55-bushel yield of the 1943 champion, Leo Mortenson of Spencer.

Second place went to Evar Anderson, Boone, with Hawkeye. His per acre yield was 44.47 bushels.

Third place winner was Vernon



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Montefering, Auburn. His Hawkeyes yielded 43.87 bushels per acre.

Adams was by far the most popular variety grown by Iowa contestants last year. Almost twice as many grew Adams as Hawkeye, the next in popularity.

Lincoln, the most popular variety in 1949, was third.

Other district winners and their varieties and bushel yields: Frank Parker, Dexter, Adams, 39.53; Wilson Bros., Alden, Adams, 34.49; Milo Luers, Keota, Adams, 43.62; A. A. Vaughn, Rolfe, Hawkeye, 35.52; and Sac FFA Chapter, Sac City, Adams, 39.21.

48 Bu. Yield at Mexico, Mo.

J. E. Mollet, Audrain County, is the grand champion of the soybean achievement program of Mexico, Mo., with a record of 48.5 bushels per acre, 9.1 bushels more than last year. Last year's contest was won by his son, Elmer Mollet.



Photo Mexico, Mo. Ledger

J. E. Mollet (right) took the championship of the Mexico, Mo., soybean achievement program this year away from his son, Elmer, (left) who was last year's champion. Cup held by J. E. becomes the permanent property of first contestant to win it twice. Elmer was runner up in Class A this year.

This achievement program is divided into two classes, class A for the farmers in the eight-county area, and class B for the youth organizations, FFA, 4-H and Junior Farmers Association.

Winner of Class A was Carver Brown, Laddonia, with a yield of 46.47 bushels. In second place was Elmer Mollet, with 41.1 bushels.

Winner of Class B was Louis Smithey, a veteran with 38 bushels. Second place was won by Walter Hitz, with 34.8 bushels.

The winners of these two classes were scored not only on yield but on the following good farming practices: lime and fertilizer, inoculation, proved varieties, use of cover crop following harvest and marketing through a farmers' cooperative.

Average yield of all contestants in the program by varieties was: Wabash 35.5 bushels per acre; Chief 29.7; Lincoln 28.8.

When soil was tested and the proper fertilizer was used the yield was 5.8 bushels per acre higher than when no fertilizer was applied.

The yield was 4.6 bushels per acre higher on those fields that were inoculated as compared with uninoculated seed.

The program was sponsored by MFA Cooperative Grain & Feed Co., Mexico, Mo., the agricultural extension service and the vocational agriculture program.

Winner of Ontario Contest

Wm. H. Bartja, Scudder, was the first-place winner of the Ontario High Soybean Yield Contest. His total score was 137.13 and he was chosen from among 13 contestants in the province, each of which was among the three high of his respective region.

Bartja entered Hawkeyes that averaged 41.6 bushels per acre. Row

planting width was 26 inches and oil content of the beans was 19.6 percent.

Scores were determined by a combination of yield, oil content, protein content and appearance.

Second place winner was Frank Long, Port Rowan. His Hawkeyes averaged 47.25 bushels per acre, highest yield in the contest. He planted in 21-inch rows. Oil content of his beans was 16.67 percent.

Neal Adams, Fletcher, was third place winner with Lincolns that averaged 43.5 bushels per acre. He planted in 22-inch rows. Oil content of the beans was 18.98.

Other varieties planted by the 13 winners included Flambeau, Harman, Harly and Capital.

Indiana Grain Show Winner

Hartley Tyler, Remington, won both grand championship and reserve championship at the recent Indiana Corn and Grain Show, on samples of Hawkeyes and Lincolns.

Tyler has a 160-acre farm and raises corn, oats and soybeans as grain crops. Last year he raised 22 acres of soybeans. He has won both bronze and gold medals in the state acre yield contest as well.

Jack Stafford, 14, Rt. 1, Muncie, won the grand championship in the 4-H show with a sample of Lincolns.

Both shows were held at Purdue University.

Best Varieties for Iowa

Soybean varieties are now tailor-made for growing in any region of Iowa. Varieties that fit the average length of the growing season anywhere in the state are available for 1951 planting.

The latest soybean variety groomed for Iowa is Blackhawk. Early maturing Blackhawk, developed by

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HUGH B. ELLSWORTH

C. R. Weber, Iowa State College and U. S. Department of Agriculture agronomist, is well adapted to extreme northern Iowa.

Blackhawk will be grown by seed producers for the first time in 1951. Weber expects it to replace Earlyana and Harbaro which are now used in northern Iowa. It should also replace Early Minnesota Manchu and some Hawkeye acreage in extreme northern Iowa.

Earlyana is recommended for northeastern and extreme northern Iowa until enough Blackhawk seed is available. It is best adapted to soils of medium fertility.

More acres were planted to Hawkeye than any other variety in the northern half of Iowa last year. Developed by the Iowa Agricultural Experiment Station and released in 1948, Hawkeye can be grown throughout Iowa, but it is best suited to the northern half of the state. It will mature along the northern border in normal seasons if planted between May 10 and 20. Southern Iowans have found good use for Hawkeye for delayed planting.

Hawkeye is high-yielding, tall, lode-resistant, high in oil content and about a week earlier than Lincoln.

Lincoln and Adams varieties are adapted to the southern two-thirds of Iowa. Their territory overlaps the Hawkeye area. Adams yields slightly more than Lincoln, and ripens a few days earlier. Weber says it also stands somewhat better than Lincoln and is higher in oil content. Farmers report that it is easy to combine.

Lincoln is adapted to all but the top three tiers of Iowa counties.

As a soybean that grows well in the less fertile soil of southern Iowa, Chief has found a place in the state. It is six to eight days later than Lincoln and grows eight to 10 inches taller. In southern Iowa tests, Chief yielded less than Lincoln or Adams, but on the less fertile soil its height is an advantage.

Varieties for Missouri

The two main soybean areas of Missouri, northeast and southeast, need varieties adapted to each area, says William Murphy, University of Missouri crops specialist.

Murphy said that Chief, Lincoln, and Wabash are the best varieties for north Missouri with its shorter growing season. He recommended Chief for low-fertility soils, Wabash for soils of medium fertility, and Lincoln for the extreme northern section of the state where a very early maturing bean is needed.

Hawkeye, a variety grown by many farmers in north Missouri is just too early maturing to make full yields in Missouri, he said.

For southeast Missouri Murphy recommended Wabash for early bean production, S-100 as a mid-season bean, and Ogden, Ralson or Arksoy where a full season crop is desired. He said that although Ogden is the highest yielding bean in southeast Missouri it often matures too late to get out of the field in good shape. Ralson and Arksoy are earlier maturing and do not shatter as

badly but are not as heavy yielders as Ogden, he said.

Murphy said S-100, a variety developed by the Missouri Experiment Station, fits well into a rotation calling for fall-seeded small grain in southeast Missouri.

Soybeans for Illinois

Blackhawk will be distributed this year in limited quantities to experienced certified seed producers in 21 northern Illinois counties, according to C. M. Woodworth, crops specialist of the University of Illinois. It matures one week earlier than Hawkeye in northern Illinois but yields slightly less, and stands well or better. Blackhawk is probably the best early variety available at present for that section of the state.

Adams is a selection from a cross between Dunfield and Illini varieties. Maturity is about same as these varieties and Lincoln. It resembles Dunfield in many respects and is adapted to central Illinois. A five-year comparison at different locations in Illinois between Lincoln and Adams, gives Lincoln the advantage by about 1.5 bushels per acre.

Monroe was developed in Ohio from a cross between Mukden and Mandarin. It is about week earlier than Blackhawk. Hence, it is not recommended for Illinois unless an extremely early variety is desired.

Starts a Chain Reaction

When a farmer inoculates his legume seeds with the right bacteria, he may be said to be starting a "chain reaction," according to U. S. Department of Agriculture scientists. When legume seeds are so inoculated . . . an essential requirement . . . it means more nitrogen for the legume plants, and for crop plants following the legumes, more protein yield per acre.



This new Dearborn Corn Planter is a precision-built, ruggedly constructed implement, designed for accurate planting of corn, soybeans, peas, sorghum and most all other field seeds usually planted in rows. Dearborn Motors is the national marketing organization for the Ford tractor and Dearborn farm equipment.

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Inoculation is carried out by mixing the proper legume bacteria with a carrying agent. This is then moistened and mixed with the legume seed. These bacteria produce nodules on the legume roots and live off the plant, but in turn furnish the plant with nitrogen taken from the air.

Soybeans are usually inoculated with mixed strains of soybean bacteria because some varieties prefer one and some another of this group of organisms.

As a means of getting a good stand, keeping up a good stand, and increasing yields, Erdman says "suitable and thorough inoculation is a great economy."

"Nothing keeps up the production tone of the average farm," Department specialists say, "better than legumes rightly inoculated, adequately fertilized and properly managed."

Are Top Crop in Missouri

Soybeans are now Missouri's most valuable crop.

Value of the 1950 soybean crop in that state was \$61,634,000. The Missouri cotton crop was worth \$58 million dollars, the wheat crop 49 million dollars.

The sudden rise of the soybean is due to several factors, says W. C. Etheridge, head of field crops work at the Missouri University College of Agriculture. These include the demand for new sources of oil, the improvement of soybean varieties, and greatly increased acre-yields due to better cultural methods and soil improvement.

Dr. Etheridge believes the importance of the soybean crop in Missouri will continue to increase with the ever expanding demand for oil.

The soybean made its first appearance on the trial plots of the Missouri Agricultural Experiment Station about 1905, but it was not till 1917 that the Station began to promote the crop as worthy of widespread adoption—and even then mainly as a hay crop. Its phenomenal development as an oil crop has taken place in the last 10 or 12 years.

Experimental improvement of varieties and the search for better oil bearing strains adapted to Missouri have been largely under the direction of Dr. Etheridge and his associate, C. A. Helm.

— s b d —

Since soybeans can withstand large quantities of rain and standing water and still produce a high tonnage

of green matter, they are proving excellent as a summer crop on the marl soils of Dade County, Fla., according to Assistant County Agent A. E. McIntyre. This information is the result of tests run by three farmers on 17½ acres, using five varieties of the beans—Otootan, Biloxi, Ogden, Hayseed, and Tekie.

— s b d —

COVER PICTURE

Best customers for the production of a billion and a half pounds of soybean oil are margarine and vegetable shortening.

Shortening, though not in the limelight like its contentious cousin, margarine, is a far better customer, in fact consumes about half of all the soybean oil produced in the U. S.

But margarine manufacturers are aiming for their first billion-pound year in 1951. (They fell just short of it in 1950.) And they hope also to see most of the remaining legislative restrictions removed on the product this year.

Cover picture shows a margarine packaging line for Lever Bros. Good Luck Margarine. Lever is also a large producer of vegetable shortening, is building new plants for these products in St. Louis.

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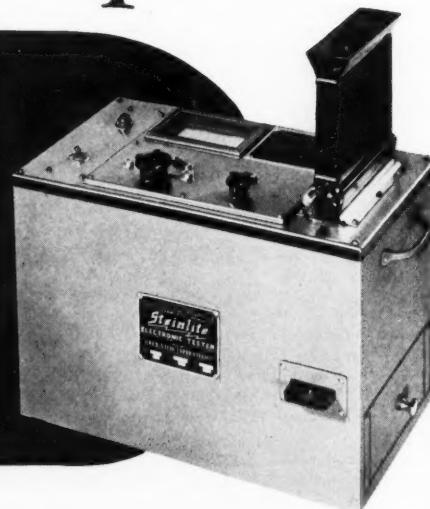
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This new Model 400-G Steinlite covers a broader moisture range than former models—quickly registers as low as 1½% on peanuts and up to 50% on high

moisture corn. Meter readings are made more accurately with a single selector switch. A dial thermometer, built into the instrument, makes temperature adjustments easier. A longer trouble-free life is assured by the increased stability of the electronic circuit and rugged chassis. Charts are calculated to check with government inspection points. Test pads are available to check the electrical accuracy of the machine.

The reliable, economical, constantly improved Steinlite, the result of 20 years of continuous research, is the world's most popular moisture tester. Remember, too, that for 39 years Seedburo has provided the most highly developed moisture testing service in America. Take advantage of it by bringing your moisture testing problems to Seedburo . . . now!

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Get the weeds when they are little.

6 Right Steps to Peak Production

By PAUL C. HUGHES

Thirteen million acres of soybeans in the U. S. for 1951. That's the government's goal.

Last year the acreage jumped from about 10 million acres to over 13.2 million acres. The extra acres came out of the reduction in cotton and corn under the government's acreage control program.

But this year the government wants to increase corn acreage 6 million and cotton 10 million. How are we going to put that many acres back in corn and cotton and still hold up soy acres?

Instead of an acre production goal the goal should be stated in bushels or bales. Instead of urging producers to plant more acres the stress should be on getting more production per acre. Instead of asking for 13 million acres of soybeans in 1951 the government should ask for 285 million bushels.

This new defense effort is not a one shot affair. It will be with us for many years. We can't afford to bankrupt the soil through heedless plowing up of pastures and abandonment of rotations that conserve our soil.

During the past year we raised an all-time-record soybean crop. But even so our national per acre average was only 21.7 bushels. At the same time Cecil Mann of Promised

Land, Ark., won the North Mississippi County soybean yield contest with a yield of 50.8 bushels per acre. Robert Taylor of Arcadia, Ind., won the Indiana state contest with 51.7 bushels. Carl L. Carlson of Roseville won the Illinois contest with 48.66 bushels. Kenneth Taylor of Indianola won the Iowa contest with 48.5 bushels. And J. F. Mollet won the Mexico, Mo., championship with 48.5 bushels. Each of the champions far more than doubled the national average!

All farms or all fields cannot be expected to equal these championship yields. But the champs do point out the way to increase the national average. And it can be pushed up from 21.7 to 25 or 26 bushels per acre. The average yield in Illinois in 1949 WAS 26 bushels an acre!

To increase your yields five or six bushels an acre all you need to do is to follow these six right steps:

1—Use the highest yielding varieties adapted for the conditions under which you are farming. Many varieties are adapted to your area but only one or two are the top yielders so choose one of them. See variety map in this issue for recommendations of agronomists at the U. S. Regional Soybean Laboratory.

Get your seed supply early while you can still get seed that is of known origin and free of disease. Be

sure you know what the germination is—and the higher the germination the better. Don't use seed that will germinate less than 80 percent if you can help it.

2—Use a seed protectant when it is needed. It will improve yields and stands. Seed protection can be profitable when germination is less than 85 percent, purple stain is serious, when seed rot, damping off, mildew or other disease is a factor, when seed of a very thin seed coat is used, or when the weather is not favorable for germination.

But beware of using a brand of seed treatment that is not tolerant to inoculants. You gain nothing by one improvement if you knock out another yield factor. Follow the directions on the package you buy.

3, 4, 5—Control weeds, inoculate and plant right. These three steps are so interlocked that they cannot be discussed separately.

Weed control to be successful must begin before soybeans are planted. As early in the spring as possible plow or disk the land and prepare a crude seedbed so the first weed crop can germinate and begin to grow. Don't be in a hurry to plant soybeans. Wait until the land is warm—usually during the first two weeks in May or later.

Choose land for soybeans that is high in fertility—particularly high in potash and phosphorus. A 40-bushel soybean crop uses the equivalent of 300 pounds of 0-10-20 fertilizer.

In some areas of the country—say Audrain County, Mo.—soybeans respond to a direct application of fertilizer. But on the whole it can be said that soybeans respond best to a high fertility level. So instead of using a direct application of fertilizer pick a rotation that is best suited for your need and one that has a permanent place for soybeans. Use a complete fertilizer program on

Seed protection when needed will increase stands and yields.





Inoculation is easy as ABC and it pays big dividends.

the whole rotation. Lime the land if it is acid.

After the land is warm and the first weed crop is up prepare a firm seedbed by disking the weed crop.

Then just before the soybeans are to be planted, inoculate. If the seed has been treated do not inoculate more than 30 minutes before planting. Inoculation will add bushels to the yield and should not be omitted. In Indiana tests this past year inoculated soybeans outyielded uninoculated soybeans 2 bushels per acre. In Missouri the yield difference was 4.6 bushels. But this was only part of the gain from inoculation. Inoculated plants left nitrogen in the soil that they would have otherwise used in order to grow. It is said that \$20 spent for commercial fertilizer will not replace the nitrogen used by an uninoculated acre of soybeans.

Plant soybeans in rows. If necessary, contour. Use conventional width rows, the same as you are using for your other crops. Plant 45 to 60 pounds of seed per acre—about 10 to 12 seeds per foot of row.

If moisture is lacking don't plant soybeans and then wait for rain. Let it rain first. Then plant. You get better germination and weed control that way.

Just as soon as the soybeans are up to a stand and while the weeds are still in the white hit them by using a rotary hoe or spike tooth harrow crosswise of the rows. Do this only when the plants are free of surface moisture. This operation will kill the weeds before they get started. Once or twice over should be enough.

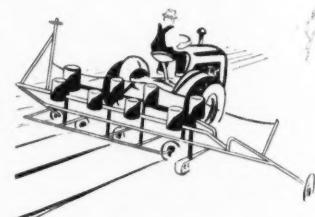
Then when the plants are eight to nine inches high cultivate shallow

THE SIX STEPS

Here are the six right steps to peak soybean production:

- 1—**Best adapted variety.**
- 2—**Seed treatment.**
- 3—**Weed control.**
- 4—**Inoculation.**
- 5—**Plant right.**
- 6—**Proper combining.**

Illustrations are from the leaflet, Six Right Steps to Peak Soybean Production. For as many copies as you can use, write American Soybean Association, Hudson, Iowa. Tell us how many you want.



Plant soybeans in conventional row widths with standard equipment.

with a regular cultivator. Do this as often as needed until blooming time or until the plants lap over in the row. The weeds must be killed before they have become as big and strong as the soybeans. Otherwise, you'll have to kill the soybeans in order to kill the weeds.

6—Combine properly. This is the payoff, the reason for planting the crop in the first place. The idea is to harvest all the crop so it can be sold for a handsome profit.

Before you hit the field the combine should be checked and repaired to first class condition. When the moisture in the beans is down to 14 percent or less it is time to begin combining. Check the combine for proper cylinder speed and clearance, the racks for proper speed, sieve for proper opening, and the air to make sure there's enough. More soybeans are lost from too little air than are lost from too much.

Check your combine as you go along. Three soybeans per square foot of land means the loss of one

bushel per acre. A loss greater than one percent of the crop in combining is too much. Soybeans are yellow gold! Don't leave them on the ground.

We can produce 285 million bushels of soybeans on 11.5 million acres of land instead of 13.2 million acres we used to produce that amount last year. We can reach that goal by increasing the national average to 25 bushels per acre—by following the six right steps to peak soybean production.



Be sure to harvest all your soybeans. Don't leave dollars in the field.



Best Adapted Varieties

The map shows the latest recommendations of agronomists of the U. S. Regional Soybean Laboratory. Do not plant varieties north or south of their recommended latitudes.

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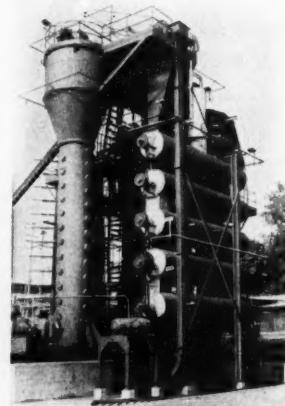


WISE FLY FISHERMEN USE SEVERAL BAITS

The clever fly fisherman improves his fishing "luck" by using several flies, depending upon the weather and water conditions he encounters. The modern oil miller improves his oil milling "luck" by processing several oleaginous materials, depending upon the raw material or finished product market conditions he meets!

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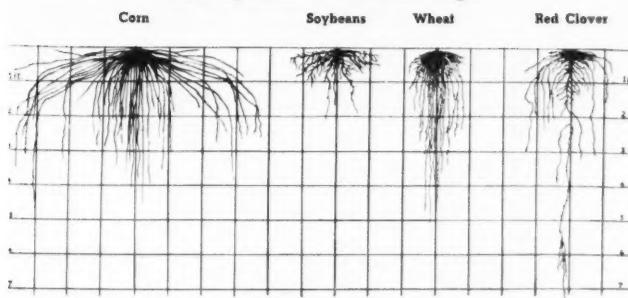


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Root Systems of Various Crops



Drawn to scale from various sources by Dr. A. J. Ohrogge, department of agronomy, Purdue University.

DO SOYBEANS CAUSE CLOVER FAILURES?

By F. A. FRANK

WITH ADEQUATE fertilization of the rotation and proper tillage methods, soybeans have proved a valuable addition to the crop sequence on many Midwestern farms. That is quite evident from the rapid increase of the soybean acreage during the last decade in the Cornbelt where approximately 90 percent of the total crop is grown. However, some farmers have experienced low yields or even failures of alfalfa and clover seeded in small grain following soybeans. Such losses must be considered serious and it is understandable that soybeans, being a new and comparatively unknown crop, are often blamed for these failures that are actually due to other causes.

Why Legume Seedings Fail

Legume seedings made in grains following soybeans or on any other crop land may fail for a wide variety of reasons, among which, lack of plant food and lime, unsuitable soil preparation for, and competition of the companion crop are probably the most prominent.

Studies of plant food removal by crops have brought out the fact that

• The author, formerly an associate in agronomy at Purdue University, is now associate agronomist in the Bureau of Plant Industry, Soils and Agricultural Engineering, Rubber Plant Investigations, U. S. Department of Agriculture. He is stationed at the Texas Agricultural Experiment Station at Winter Haven, Tex.

all legumes, including soybeans, are heavy feeders of phosphate and potash. A comparison of the root systems of various crops shows that due to the shallow root system of the soybeans, a much higher percentage of the nutrients has to be obtained by them in the upper zone of the soil. As all legumes seeded for hay or green manure start in that same area and most of them feed in it throughout their whole life span, it is obvious that the lack of either or both essential elements will seriously affect their stand and yield.

Lack of lime in the soil also can often be the cause of poor results with legume seedings. Most of our

common legumes, including the soybean, make their best growth in nearly neutral soil. Soybeans may still give fair results on medium acid soil (pH 5.6) which is not uncommon in the Midwest, but the yield of most other legumes, principally alfalfa and sweet clover, is already considerably reduced under such conditions. The nutritional functions of lime also should not be overlooked inasmuch as legumes, especially if removed from the field, require so much more calcium and magnesium than the cereals.

Furthermore, the correct preparation of a firm seedbed is highly essential for the success of clover and alfalfa seedings. With soybeans leaving the ground loose and friable, intensive seedbed preparation for the following small grain may sometimes cause the clover to be covered too deeply. Such practice also can make the seedbed liable to drying out, thereby interrupting the water supply for the legume seedlings or the small plants.

The competition of the companion crop should not be disregarded either. Heavy growth of wheat and oats can weaken or even kill legume seedlings by robbing them of moisture and plant food nutrients or by shading and lodging. This danger may become even greater with the increasing use of new heavier-yielding varieties of small grain with stiffer straw and broader leaves.

In this connection, the disposal and distribution of the straw of the combined small grain crop should be taken into consideration. R. R. Mulvey, department of agronomy, Purdue University, found in a test on the Purdue Soils and Crops Farm,

TABLE 1—RELATIVE YIELDS OF LEGUMES AT DIFFERENT SOIL REACTIONS
SEVEN-YEAR AVERAGE, WOOSTER, OHIO*

Fertilizer treatment = 400 pounds of 20 percent superphosphate and 50 pounds of muriate of potash per acre on the small grains in which the legumes were seeded. Lime was applied in varying amounts according to the reaction desired.

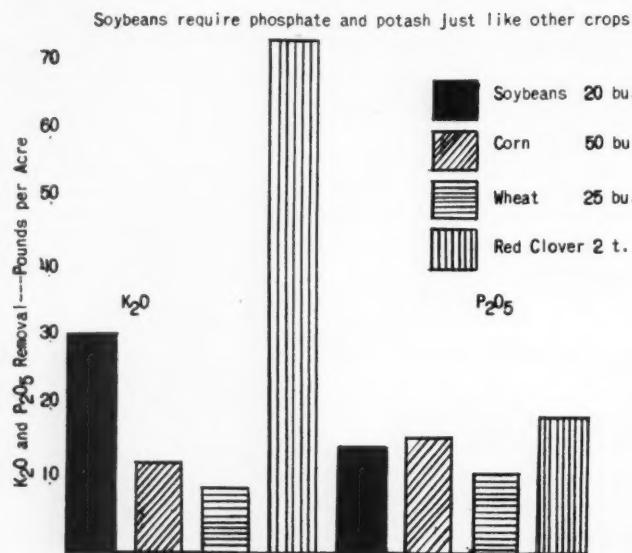
Soil reaction	Relative average yields—highest yield equals 100					
	Alfalfa	Sweet Clover	Medium Red Clover	Mammoth Red Clover	Aislike Clover	Soybeans
pH						
4.6	3	0	16	17	14	67
5.0	9	2	30	30	28	79
5.6	41	44	58	67	74	78
6.8	100	99	100	100	100	100
7.7	99	100	98	91	94	95

* Thatcher, L. E., Willard, C. J., and Lewis, R. K., "Better Methods of Seeding Meadows," Ohio Agr. Exp. Sta., Bul. 588, 1937.

TABLE 2—EFFECT OF DIFFERENT METHODS OF HANDLING COMBINED WHEAT STRAW
ON THE YIELD OF HAY THE FOLLOWING YEAR
(Purdue University Soils and Crops Farm, Lafayette, Indiana)

Method of Handling Straw	Average Yield per acre Air dry hay, tons*		Rating Percent
	Air dry hay, tons*	Rating Percent	
Clipped and removed	2.02	100	
Clipped and cultipacked	1.58	78	
Clipped only	1.37	68	
Cultipacked only	1.37	68	
Undisturbed	.98	46	

* Four replicates of 1/77 A. plots in each method.



This table shows the amount of potash and phosphate that an average crop will remove from an acre of land. Compiled from various sources.

Lafayette, Ind., that heavy combined straw and stubble left undisturbed can seriously affect mixed clover and timothy yields (Table 2). These results have been confirmed by observations and tests in other locations in the Midwest.

There are many more causes for clover failures such as the use of poor or unadapted seed, lack of inoculation, poor seeding methods, competition of weeds and damage by insects or diseases. But those described in detail above will be especially serious if proper precautions are not taken.

Soybeans Benefit Subsequent Crops

A review of longtime crop rotation experiments throughout Indiana shows that legume hay yields after soybeans have at least equalled those after corn. For instance, Table 3 shows the results of several cropping systems tested for 30 years on mixed Brookston-Crosby silt loam soil (the commonly called black and clay land of Central Indiana) on the Purdue Soils and Crops Farm at Lafayette, as compiled by R. R. Mulvey. These rotations were laid out in strips without replication. Equal amounts of fertilizer per rotation were applied on 1 and 7 regardless of the fact that the latter one was lengthened by the addition of soybeans. The fertilization of rotation

3b was even slightly higher than that of 7. The results show an equally steady increase in the yield of all crops including hay for the rotations with and without soybeans. The jump in corn production in the third period as compared with the two preceding ones is due to the replacement of open pollinated corn by hybrid corn.

Equally satisfactory results have been obtained in similar tests on various soil types in Indiana. On the light-colored Plainfield fine sand of the Sand Experiment Field in Marshall County, a corn-tomato-wheat-hay rotation averaged 1838 pounds hay per acre over the 10-year period from 1928-1938 as compared to 2141 pounds of hay per acre in a corn-soybean-wheat-hay rotation.

On the dark colored acid Newton fine sandy loam of the Pinney-Pur-

due Experiment Field in LaPorte County, the average yield of mixed hay for the period from 1925-1940 was 2460 pounds per acre for the corn-corn-oats-hay rotation and 2575 pounds per acre for the corn-soybean-oats-hay sequence.

In the southern part of the state, hay yields on the Clermont silt loam of the Jennings County Experiment Field were 3104 pounds per acre for the corn-wheat-clover rotation and 3335 pounds for the corn-soybean-wheat-clover sequence. These yields are averaged for the period from 1922-1938.

By following good farming practices such as manuring, liming, and fertilizing, the inclusion of soybeans in various rotations not only kept up soil fertility but proved beneficial by increasing subsequent grain and hay yields. The alleged tendency of soybeans to decrease legume yields has certainly not shown up in any of these cases.

In 1946, wheat that yielded 39.1 bushels per acre (2 tons of straw, estimated) was harvested with a self-propelled combine. The combine spread the straw about as wide as the cutter bar and mostly on top of the tall stubble. Tractor and combine wheels did not pass over the straw. The straw was handled in the different methods listed in Table 2.

It is to be pointed out that small conventional pull type combines that spread the straw evenly on the land do not present the same problem as the self propelled used in these trials. Tractor and combine wheels passing over the straw are probably at least as effective as cultipacking.

Nevertheless, reports of clover failures on soybean ground as compared with corn ground were so persistent that several agricultural experiment stations in the Midwest turned their special attention to that problem. Willard and Thatcher in Ohio found no significant differences in the number of legume plants after soybeans and after corn in all their

TABLE 3—COMPARISON OF CROPPING SYSTEMS
Purdue University, Soils and Crops Farm, Lafayette, Indiana

Cropping System	Average Yields per Acre by Periods			
	1st 1916-25	2nd 1926-35	3rd 1936-45	Entire 1916-1945
Rotation 1				
Corn bu.	51.4	58.3	80.8	63.5
Wheat bu.	24.8	28.0	28.5	27.1
Clover lbs.	3640	5062	5058	4587
Rotation 2				
1st corn bu.	56.1	53.9	84.3	64.8
2nd corn bu.	48.1	46.5	73.9	56.2
Wheat bu.	23.1	29.7	36.3	27.7
Clover lbs.	3426	4337	4017	3927
Rotation 7				
Corn bu.	60.5	61.0	89.8	70.4
Soybeans bu.	21.3	26.1	28.4	25.3
Wheat bu.	30.7	34.3	37.6	34.2
Clover lbs.	3547	4564	4723	4278

TABLE 4—RESULTS OF CLOVER FERTILIZATION TESTS ON SOYBEAN AND CORN GROUND. YIELD OF LEGUME HAY IN POUNDS PER ACRE.

Treatment	Companion Crop = Oats Average of 5 tests 1944-1945 and 1945-1946		
	After Soybeans lbs./acre	After Corn lbs./acre	Increase After Soybeans lbs./acre
No Treatment*	3,380	3,369	71
Lime only	3,768	3,535	155
400 lb. 0-12-12	4,221	4,217	104
400 lb. 0-12-12 + Lime	4,449	4,255	194
800 lb. 0-12-12	4,782	4,441	341
800 lb. 0-12-12 + Lime	4,959	4,661	298

*"No Treatment" disregards whatever over-all fertilization has been applied to the companion crop.

Treatment	Companion Crop = Wheat Average of 5 tests 1944-1945 and 1945-1946		
	After Soybeans lbs./acre	After Corn lbs./acre	Increase After Soybeans lbs./acre
No Treatment*	2,967	2,608	359
Lime only	2,702	2,696	6
400 lb. 0-12-12	3,117	3,061	56
400 lb. 0-12-12 + Lime	3,081	2,963	118
800 lb. 0-12-12	3,574	3,309	255
800 lb. 0-12-12 + Lime	3,229	3,115	114

*"No Treatment" disregards whatever over-all fertilization has been applied to the companion crop.

tests with one exception, which was on very seriously run down land. In tests at Columbus, Ohio, in 1946, hay yields from all fertilizer treatments as well as from different seedling methods averaged slightly higher on soybean ground than on corn ground with the legume sown either in wheat or oats.

In 1944, the Agricultural Experiment Station, Purdue University, aided by a grant from the Central Soya Co., Fort Wayne, Ind., set up a soybean research program which provided for a study of the effect of soybeans on subsequent clover crops. The work on this project now in progress approaches the problem from various angles. This discussion deals exclusively with the results of some tests designed especially to determine how applications of lime and fertilizer will affect yields of legume seedlings in small grain on soybean and corn ground.

Each year since 1944, in central Indiana a number of tests comparing various amounts of fertilizer were laid out in fields which in the preceding season had been partly in soy-

beans and partly in corn. This provided an accurate comparison between soybean and corn ground. Provision was made that the seedbed preparation for the companion crop was the same after soybeans and after corn. Fertilizer and lime were applied to the small grain on small replicated plots crossing the corn and soybean ground. On winter wheat the treatments were top-dressed in early spring previous to the sowing of the legumes. In preparation for oats, fertilizer and lime were disked in lightly before seeding.

A total of 10 tests (five in wheat and five in oats) were harvested in 1945 and 1946. Only one cutting was made of clover and two of alfalfa with the fields then generally left for pasture.

The results of these tests (Table 4) show that legumes following soybeans outyielded legumes following corn by an average of 170 pounds per acre regardless of companion crop and fertilization.

The application of 400 pounds of 0-12-12 fertilizer per acre to oats increased hay yields about 800

pounds per acre regardless of the preceding crop. Additional increases of about 500 and 300 lbs. of hay per acre on soybean and corn ground respectively were produced by doubling the amount of fertilizer.

In wheat tests, the yield increases were considerably smaller with only about 300 pounds of hay per acre for each 400 pounds fertilizer application.

The effect of the fertilizer on the yield of hay was about the same whether the legumes were sown on soybean or corn ground. The method of application, however, made a considerable difference. Disking phosphate and potash in, though only lightly, as in preparation for oats, was far more effective than top-dressing both without further mixing with the soil.

Liming had little effect on the yield of hay because, especially in 1945, test fields had been chosen high enough in lime content to warrant the growing of clover. When disked in preparation for oats, the application of lime usually slightly increased the amount of hay in comparison with the corresponding unlimed plot. However, top-dressing fine lime on wheat in amounts from 500 to 2,000 pounds per acre usually resulted in reductions of hay yields in comparison with the unlimed plots. Such depressions were noted previously by other workers and are probably due to the depressing action of lime upon the availability of other plant foods.

Considering the data from all Purdue studies presented here, it is quite evident that the claim of the adverse effect of soybeans on subsequent legume crops cannot be generalized. However, in order to avoid possible disappointments in stands and yields of legumes in rotations with and without soybeans, suitable growing conditions for legumes must be provided.

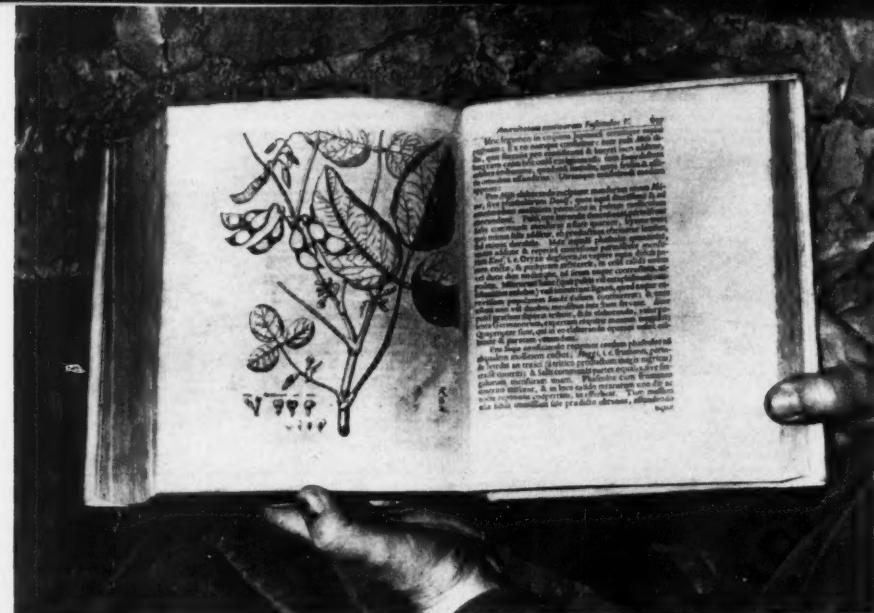
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The Kaempfer book, opened to the report on soybeans.

First Published Report on Soybeans

IT WAS WRITTEN IN GERMANY IN 1712

By DR. W. BENING

American soybean experts have come to Germany during the past two years to assist in soybean growing and breeding—and to sponsor German-American cooperation in utilization of soybean products as protein food for man.

On most of the trips the German Institute for Grain Processing in Detmold was visited to discuss with Paul Pelshenke, the director of the institute, the utilization of soy flour to fortify the protein value of bread. A little detour was made on these trips to nearby Lemgo, to pay a visit to the Engelbert Kaempfer Museum located in that dreamy, medieval town. In this museum, in a precious old cabinet, the first published report

on soybeans and soy food is carefully locked under glass.

The report is contained in the book, *Amoenitates Exoticae* (Exotic Novelties), written by Engelbert Kaempfer, the first white man to visit the Far East to study the soybean and its utilization as a human protein food.

When Engelbert Kaempfer was born, on Sept. 16, 1681 in Lemgo, the peaceful little town trembled under the terrors of the last witches' trials, which belong to the darkest chapters of European history. Engelbert's father was vicar of the Nicolai Cathedral of Lemgo. It was his duty to accompany many an unfortunate creature on her last journey to be burned at the stake. Some of Engelbert's first childhood memories, which never faded, were of the tormented face of his father when he came home from one of those atrocities through which smart men in power succeeded in defaming the families of competitors.

It may be that such recollections from his earliest days were the restless driving force of the grown up scientist, Engelbert Kaempfer. All his life he was led by his indomitable will to wander, and to study in faraway countries, religion and civilization, and the art and litera-

ture of men, as well as their agricultural and economic conditions, and foods and food habits. He had an unbelievable capacity for learning foreign languages.

His life was animated by a deep understanding of human errors, miseries and values. The hardness of his own life made him one of those exceptional broad-minded humane persons whose love for humanity knows no bounds. He never cared for his own personal comfort. When he died, after one of the physically poorest but spiritually richest lives that a gifted man has ever spent on this funny globe of ours, he left nothing behind him but his diaries, drawings and manuscripts. And his wife, who had spoiled his last years—a real witch if we may believe his contemporary biographers. But they could have been wrong, let us hope.

In British Museum

Kaempfer's diaries, drawings and manuscripts, including his own drawing of the soybean, have been carefully preserved for about 200 years among the rare materials of the British Museum in London.

An amateur in almost all fields of science, with profound knowledge in



Dr. Bening is a German nutritionist and soybean expert, who has been connected with the program for improvement of the German diet with soy foods.

medicine, botany, and pharmaceuticals, at the age of 32 Engelbert managed in 1713 to be engaged as secretary to the Royal Swedish Ambassador Extraordinary on a special mission to Persia. And some years later, after many story book adventures, he was assigned as surgeon in the colony of the Dutch East India Co. in Japan.

This company operated at that time the only European colony in Japan. It was licensed by the emperor of the country. The colony was hermetically sealed from the country and its inhabitants. Laws were extremely severe on foreigners as well as the natives.

Kaempfer, whose only wish was to study the country and its population, despaired. Yet under these hard circumstances, he wrought the masterpiece of his life. His open character and untroubled friendliness to all, and his extraordinary gift of learning languages overnight, opened to him the minds and hearts of the Japanese people who, disguised as servants, were assigned to the task of denouncing to the emperor's secret police any foreigner's attempt to make personal contacts among the people.

Engelbert managed to make his servant-spy a personal friend. There was an animated exchange of ideas as the two discussed, night after

A page from Engelbert Kaempfer's report.

Amenitatum exoticarum

aque communis menturas duas cum dimidiâ: quo fæto, maflam probe operculatum potridicæ ac sequentibus diebus singulis ad minimum fætem (fatiis bis vel ter) rubatibus agrant. Labore duobus vel tribus mentibus contumato, maflam filtrant & exprimunt, liquefunt vasis lignis allervantes; qui que antiquor fuerit, eò clarior eit & melioris notæ. Maflam ita emulam, affutâ aquâ, denuo irrigant & ab agitatione aliquot dierum exprimunt.

木豆 *Suku*, vulgo *Kuro mame*, i.e. *Phaeolinigrum*. *Phaeoli Daidži* species five varietas, fructu nigro.

Idem fructu nigricante, pumilo medicinali; cuius granaria tria vel quatuor in pulverem redacta propinuant althematicis.

角豆 *Katz*, vulgo *Kudsu*, *Kudsu Kâdâura*, & *Kâdâne*. *Phaeolus*, *lîvus* flore purpureo spicatus, pendulus, fesquispithamalibus; fliquis plurimis hirsutis, triticialibus compressis, apice redundo; fructu albidio, pumilo; radice carnosâ, cubitali, brachii crassitate, ex quâ farina edulis molitur.

蚕豆 *Koquan* seu *Goquan*, vulgo *Nemu no ki* & *Neburi no ki*, i.e. *Dormituriens arbor*. *Heschynomena* lavis montana, foliis *Acacia*, pinnis *falcatis* acutis; furculorum extremitate multis flocculorum imperfectiorum umbellis spicatas. Silique pendulis, angustitis, compressis, limbo marginali decoratis, mucrone acuto: Seminibus obfusare badis, pili magnitudinis, ovatis & compressis, nullo ungue dotatis.

Quai,

night, the differences between the Eastern and Western hemispheres. During one of those nights, in extreme secrecy, the white man dissected the corpse of a man who had died in the colony to show his superstitious Japanese friend the location of the heart in the human body. Opening a human body was considered a most devilish crime. A Japanese of that time would not even have dared to dream of it.

It seems unbelievable, but it is an internationally acknowledged fact that Engelbert Kaempfer in those prison years on the little island of Deshima, laid the foundation of western science in Japan.

When Engelbert returned to Lemgo 10 years after he had left home, he wrote his *Amoenitates Exoticæ* in the difficult Latin language of those times. He also wrote his famous book on Japan which was translated by a Swiss into English and published in 1725 in London. The British Museum conserves his diaries that certainly should be published to become available to all of us.

George Strayer, Jackson Carter, Dick Brierley and other key men of American soybean development, have made the little detour to Engelbert Kaempfer's dreamy medieval town of Lemgo in Lipper Laendchen to see the museum of the man who brought the first news about the marvel bean to the Western Hemisphere 20 years before George Washington was born.

What Kaempfer Wrote

There follows in modern language what Engelbert Kaempfer wrote 250 years ago about soybeans and soy products:

Daidsu—as people and scientists call it, is also called "mame" for its excellence. An upright bean, a leguminous plant like lupine, with whitish fruit somewhat larger than peas.

A bean, similar to the afore-mentioned, but four feet high and with more branches and leaves, with upright stem, irregular branches and with hairs. It stretches forth leaves like the garden bean, but with more pubescence on the under side of the leaf. In the month of August it bears on pedicels in the axil of the leaves several bluish white flowers with a large standard, which resemble those of lentils. These tiny blossoms are followed by pods measuring $1\frac{1}{2}$ inches long, which are covered with heavy hairs (pubescence) resembling those of the yellow lupine. The pods contain two, and more rarely three seeds, similar to garden peas



The Engelbert Kaempfer Museum near Lemgo.

in size, shape and taste, but laterally somewhat compressed, and with a chestnut brown eye (hilum).

This legume supplies to the Japanese kitchen vital elements, for they make from it the following:

1—A kind of pap that they call miso, which is added to dishes instead of butter. Butter is unknown under this strip of heaven.

2—And then the famous so-called shoyu, a sauce which is poured over if not all dishes, at least over all cooked and fried meals.

I add the processing methods for both.

To produce miso, one takes one measure of mame or *phaseolus diadiso* which is cooked with water for a long time and then brayed or ground and mixed into a soft pap. Under continued braying, common salt is added, in summer four parts, in winter three. If less salt is added, one gets the product quicker, but shelf life is shorter. After reducing has been repeated, one mixes the pap with koos or dehulled rice, and mixes the total by repeated braying. This rice in preparation has been boiled a little in the steam of unsalted water. One lets the mixture cool down and remain in a warm cellar one or two days and nights to ripen.

This mixture, which has the texture of a pap or spread, is put into a bowl that recently contained the popular sacki, a rice wine. Before using, one lets the bowl stand one or two months untouched.

Koos lends to the product an agreeable taste, and its production requires, like that of the Germans' "polenta," the experienced hand of the master. Those therefore who make it are held in high esteem, and they sell it ready made.

To make shoyu one uses the same beans just as thoroughly cooked. And "muggi," which is barley or wheat fermented (with wheat the product becomes darker) which has been coarsely ground. One mixes equal units with ordinary salt, or only one unit with half of it.

The beans are blended with the prepared grain, and one lets the mixture stand in a warm place under cover a day and a night for fermentation. Then the salt is added, one stirs the mass and mixes with water, normally two units to half. When this has been done, the well covered mass is stirred once (better two or three times) the next day and each subsequent day by means of an oven rake. This work is continued for two or three months, then the mass compressed and filtered and the liquid preserved in wooden containers. The older it becomes, the clearer and better it will be. The squeezed mass is again filled up with water and newly stirred and some days after treatment pressed again.

Engelbert Kaempfer obviously neglected in this 250-year-old report the great importance of soybean oil. In our hemisphere and century, it is the fat that is the preferred substance of the bean. It is true, we cannot overestimate the importance of soybean oil. But we should not underestimate the importance of soya protein which is as economical as it is essential to human nutrition—and nutritious on the tongue if it is well prepared. And the protein is also a good money maker for soybean growers and processors.

The author is deeply obligated to Mrs. Inge Bening and to Professor Franz Rauhut, director of the Institute of Romanic Languages, Professor Burgeff, director of the Institute of Botanic Science and Fritdof Mueller, student of the Wuerzburg University, for their help in translating the difficult Kaempfer text into German.

— s b d —

SUGGESTS MORE SOY

Wider use of wheat germ, soy flour and brewer's yeast is recommended by Dr. Clive M. McCay, School of Nutrition of Cornell University, Ithaca, N. Y., who finds that these were not readily obtainable at most stores.

Dr. McCay could obtain soybean flour and brewer's yeast only in health food stores. From five to 10 percent of this flour may be used in baked goods. The liquids should be increased a little, since soy flour is dehydrated.

USES SOY STRAW IN PAPER MANUFACTURE

Ball Bros. Co., manufacturer of strawboard at Munice, Ind., has been experimenting with soybean straw in the manufacture of nine point corrugating strawboard, according to E. M. Pyatt, plant chemist.

About 100 tons have been used so far and 600 tons are on hand for further use. Normally 25,000 tons of wheat or oat straw are used each year, according to Pyatt.

The soybean straw was processed in essentially the same manner as other straws. Three to five tons were charged into spherical rotary digesters, cooking chemicals added, and the charge brought up to cooking temperature with low pressure steam. Cooks were made using sodium sulfite, lime, soda ash and caustic soda.

Because of the coarser more woody structure of the soybean stalks, it was necessary to use a higher proportion of cooking chemicals, and a longer cooking time than is used in cooking straw. Some later cooks were made using a few bales of soybean straw mixed in with a regular straw cook.

Laboratory tests of paper made entirely from soybean straw pulp indicated lower strength characteristics than paper made from wheat or oat straw. Soybean straw pulp is also less free than other straw pulps necessitating slower paper machine speeds to obtain proper formation and drying.

The most promising use of soybean straw appears to be as filler pulp. Soybean pulp in amounts up to seven or eight percent of the total furnish has been used with no noticeable reduction in strength characteristics or machine speeds. However, Ball Bros. Co. plans no appreciable increase in the amount of soybean straw used in strawboard manufacture, says Pyatt.

— s b d —

JOIN MARGARINE BATTLE

The women have moved in on the battle to repeal restrictions against the sale of colored margarine in Pennsylvania, according to the Associated Press.

A new organization, the Pennsylvania Women's Committee for Yellow Margarine, has made a plea for a statewide movement to fight the issue in the 1951 Legislature.

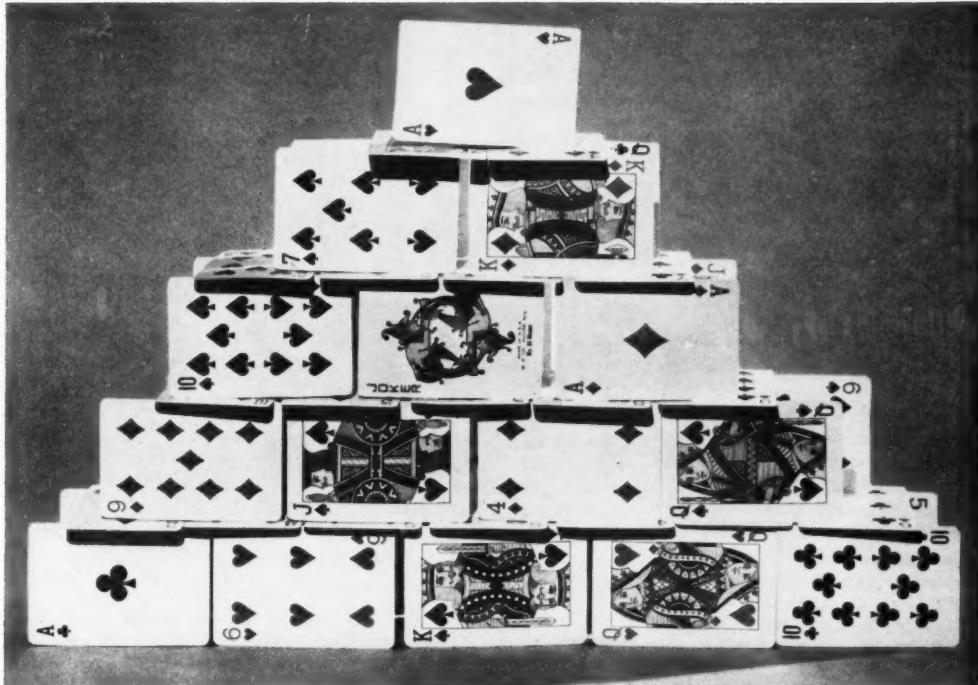
"We hope to co-ordinate the rising demand from housewives, women's organizations and various associations throughout the state to end this discrimination which most people feel is directed against low income families," said Mrs. Helen M. Schluraff, of Erie, Pa., President of the Pennsylvania Council of Republican Women.

In Pennsylvania, margarine must be sold in its white form with any coloring matter to be mixed in by the purchaser.

Eagle Grove, Iowa, Plant



This is the Eagle Grove, Iowa, plant of Boone Valley Cooperative Processing Association. Firm operates two Expellers and has storage capacity for 120,000 bushels of soybeans. Edward Olson is the general manager. Firm also operates a plant at Hubbard, Iowa.



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FUTURES MARKET INSURES GRAIN PRICES

By CARL E. BOSTROM

President of the Board of Trade of the City of Chicago. From his remarks at press party Jan. 24.

The maintenance and improvement of our marketing machinery is a slow, tedious process involving more hard work by the many competitive elements which make up the market rather than brilliant ideas by marketing experts. The Board of Trade itself, as you know, does no actual buying or selling of grain. A grain exchange such as the Chicago Board of Trade is simply a market place. The exchange does not buy or sell any commodity nor does it record the individual transactions of members or their firms. All members, of course, have assented to and are strictly bound by the rules and regulations of the Association. Through our business conduct committee we have the right to check all trades to insure strict compliance with our rules. The Commodity Exchange Authority of the U. S. Department of Agriculture, similarly, polices all commodity transactions on our exchange.

There should be no mystery surrounding futures contracts because they are basically simple. There are two parties to a grain futures contract. One party agrees to sell and deliver. The other party agrees to buy and receive. The commodity is a certain kind and quality of grain. The contract specifies a month, a

price, and other uniform conditions under exchange rules.

So much for the mechanics of trading. What are the economic implications? We know that professional speculators can and should survive only if their economic existence is fully justified by the service they render to farmers and consumers. It is obvious that the service of the speculator is rendered in connection with his activities in making our free grain market liquid—by standing ready to buy or sell any quantity of grain which is supplied or demanded for any of the authorized delivery periods.

As you know, a futures market is designed to furnish price insurance for the cash grain trade. It is not primarily the mechanism for the distribution of grain. True, many deliveries of grain are actually made in public warehouses in Chicago at the termination of futures contracts. Delivery must be made, and is always made unless the individual in the market has liquidated his position by an offsetting sale or purchase prior to the termination of the contract. We must always have the possibility of actual delivery in our contract to keep it from being meaningless. But it would be no more logical for each holder of price insurance in our market to use our delivery privilege in every case than it would be for the owners of real estate to dispose of their property through burning

the houses to obtain fire insurance payments.

The futures market is the instrument which makes hedging possible. A recent survey by one of the markets found that seven out of ten members of the public have never heard of the term "hedging." Many who have heard of it, failed to understand it. Hedging is a process of trading in the futures market which enables the buyer or seller of grain to obtain the equivalent of insurance against loss through fluctuating prices, which are inevitable in the case of grain. He accomplishes this by offsetting a purchase or sale of cash grain with a sale or purchase of a like amount of grain in the futures market. For example, the process of hedging permits the country elevator to buy grain from a farmer on a safe, narrow margin of cost and profit, which in turn enables it to pay the farmer more for his grain than otherwise would be possible; and it enables the merchandiser or processor of grain to reduce his risk to such an extent that he is able to make grain products available to the consumer every day in the year at a lower cost than otherwise would be possible.

The benefits of hedging, which is made possible by speculation, are many—they go back to the farmer himself. Actually, because of hedging, farmers get higher prices for their grain.

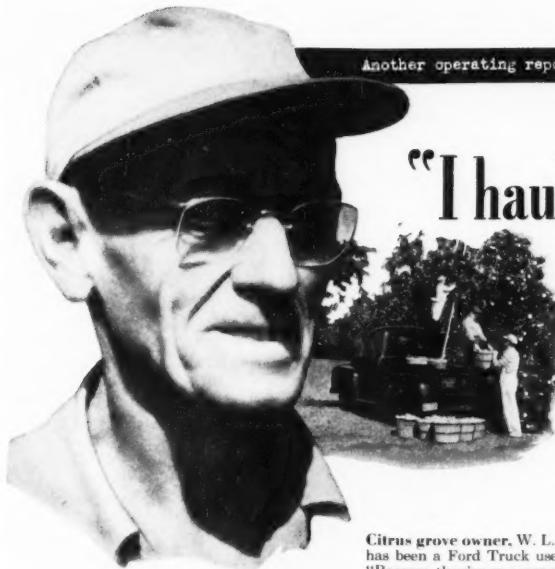
It's important, too, that everyone interested in grain knows what prices are, and so the Board of Trade publishes them all during marketing hours. Prices are public information. In the old days, farmers often suffered because they couldn't be sure they were getting a fair price. There was no way of spreading information about the prices other sellers were getting. Prices differed widely at places only a few miles apart. Farmers and country elevator men who are located outside of marketing centers, usually get their price information from the radio broadcasts throughout the day, or from the daily papers. Grain buyers, too, can always know what latest prices and quotations are, from ticker tape and customers' rooms. Thus the farmer, who has a year-round market, can always know what prices are and is free to choose his own time for selling his grain.

— s b d —

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WIDER SOY FLOUR USE MUST BE PROMOTED

Three products which had considerable development during the war are nonfat dry milk solids, dried eggs, and soybean flour, states L. J. Norton in Illinois Farm Economics. These all have certain common characteristics; they are sources of protein and are relatively nonperishable.

Will these products find a market? If not, their production will decline.

Of the three, nonfat dry milk solids have shown the best ability to find a market. In 1939 production was 268 million pounds and in 1949 it was 918 million pounds. Of this 450 million pounds were sold in the domestic market, the balance to government agencies, chiefly the United States Department of Agriculture as a price support measure, or commercially exported. Thus domestic sales were two-thirds larger than the output of 10 years earlier. The big uses were in bakeries (272 million), dairies (97 million), and meat processors (33 million).

Dried Eggs

Dried eggs stand at the other extreme in market acceptance, states Norton. These compete with fresh or storage eggs which are now on sale in most retail food stores, and with frozen eggs which have good commercial outlets. Only about 7 million pounds of dried eggs are used commercially in the United States, while in 1949, 75 million pounds were produced, of which 69 million were purchased by the U. S. Department of Agriculture as a price support measure. The major uses for dried egg albumen are in candy and cake mixes, for dried yolks in cakes, muffins, etc., and ice cream.

The soy flour industry is another example of wartime and postwar expansion which apparently has not yet been able to establish a large market. Again it is a cheap source of high protein food. The picture is shown in the table. Like those for any new industry, the output figures are not too accurate, but presumably reflect trends.

Rising from an estimated 22 to 50 million pounds before the war, output rose irregularly to a peak of 675 million pounds in 1947-48. Of this, 555 million pounds were exported. This peak figure—338,000 tons—compares with production of soybean cake and meal (including the flour) of 3,833 million tons, or over

11 times the output of flour. Thus in the peak year production of soy flour and grits represented about one-tenth of the output of meal used primarily for feed.

Comparing the production and export figures we note that the rise in this industry during the war was largely based on exports. These were financed by various United States funds in a period of worldwide food deficiency. As shortages eased and as supplies of foods (animal origin) became more normal, this export market drastically declined. This is dramatically illustrated by the sharp drop in exports between 1947-48 and 1948-49, a decline which continued in 1949-50. Exports for the fiscal years (July-June) were 336 million pounds in 1948-49 and 19 million pounds in 1949-50.

Foreign Market

Development of a foreign market on a commercial basis will not be a matter of price, for soy flour is a cheap source of protein, but rather of intensive efforts to find how soy flour can be fitted into a variety of food products. Observations by Norton indicate that this will be more difficult than in the United States because most foreign peoples are more conservative in their food habits than are our people. It should be noted that in the Orient, where soybeans have long been used as a food, soy flour is not used, the

soybeans being prepared in other ways.

The difference between production and exports shown in the table must approximate domestic use, although considerable year-to-year fluctuation in inventories is likely. These differences average as follows:

1935-1939	26,000,000	pounds
1940-1941	67,000,000	pounds
1942-1945	158,000,000	pounds
1946-1948	116,000,000	pounds
1949	123,000,000	pounds

These figures suggest a sharp increase in domestic use since prewar, say from 13,000 to 60,000 tons, a five-fold increase. However, the latter is very small in relation to present feed use—about 1.5 percent. To increase use in food will require a great deal of promotional work with wholesale users—various food processors who may find it desirable to include soy flour in various product mixes or to use in special products. As in similar cases, this work will be done primarily by various soybean processors who take a long-time view on the question of market development.

Considering the three products as a group, nonfat dry milk solids now have the best established market—both domestic and foreign. The market for soy flour is minute in relation to that for meal but shows promise of gradual development. Both the milk and soybean products have two distinct features in their favor; they are sources of what is basically the scarcest factor in world supplies—protein—and are relatively cheap.

SOY FLOUR AND GRITS: UNITED STATES PRODUCTION AND EXPORTS, 1935-50

Year beginning October 1	Production ¹			Exports		
	Full fat products	Low fat and defatted products	Total	Commercial ²	Military ³	Total
1935-36	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	—	1,000 lb.
1936-37			22,000			
1937-38			24,000			
1938-39			26,000			
1939-40			28,000			
1940-41			30,000			
			50,000			
1941-42	28,000	56,125	84,125			
1942-43	90,600	181,000	271,600	22,971		22,971
1943-44	77,185	174,280	251,465	100,540		100,540
1944-45	43,925	72,715	116,640	58,460	14,374	72,534
1945-46	50,914	322,761	373,675	183,642	3,604	187,246
1946-47	21,263	358,537	379,800	105,814	133,223	241,037
1947-48	7,746	667,633	675,379	479,674	74,879	554,553
1948-49	9,192	134,356	143,548	56,186		56,186
Oct.-June 1949-50 ⁴	7,018	111,584	118,602	13,101		13,101

¹Based on reports of the Soy Flour Association supplemented by information furnished the War Food Administration by the industry for 1942-48 and the Census Bureau for 1949 to date. Data for 1935-41 are rough approximations used during the war years since no exact data were available.

²Reported by the Census Bureau—not available prior to 1943. Thus the first figure is for January-September, 1948 only. Includes exports under the Lend Lease program.

³Shipments for military relief feeding furnished by the National Military Establishments for 1944-46 and by the Census Bureau for 1947. Beginning with January, 1948, included with commercial exports. The export figures do not include purchases by the Military for its own use.

⁴Partly estimated.
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Last years on end — none have ever worn out — not one has been demolished by tornado or cyclone. After over a quarter of a century of manufacturing COLUMBIAN Bolted Steel Tanks, they continue to prove superior because of Columbian's exclusive and important details of design. Users invariably specify "COLUMBIAN" when additional storage is needed at their plant.

Easy Ways to Erect — Detailed, easy-to-understand blue prints for erection are furnished so that tanks may be put up with any kind of labor — or we will provide supervisor for your own men — or a complete Columbian crew. Foundation specifications and blue prints are furnished to enable your local concrete contractor to build foundation.

COLUMBIAN STEEL TANK CO.

Associate Member of the Grain and Feed Dealers National Association

P. O. Box B-4226
Kansas City, Missouri



HOLD FIRST ONTARIO SOYBEAN CONVENTION

The first annual Ontario Soybean Convention held at Chatham, Ontario Feb. 15 and 16, was a big success; as a result its sponsors plan to make it an annual affair.

About 400 soybean growers, processors and others attended the event. Sponsors were Canadian processors, the Ontario Elevator Association, the Ontario Soybean Marketing Board

and the Farm Products Marketing Board of Toronto.

The Ontario soybean growers, concentrated in Essex and Kent Counties, were told that they should at least double the 3 million crop they grew in 1950, by Harry Pugh, chairman of the Ontario Soybean Marketing Board. He suggested that the growing area could be extended further north and east with earlier maturing varieties.



● When you work valuable land and plant expensive seed, you want results. Failures cost in time and money . . . lost crops ruin planned grassland rotations. To help assure legume success, wise farmers inoculate every planting. Inoculated legumes produce better growth of protein-rich hay . . . abundant seed yields. That's why most agricultural authorities agree—and farmers insist on regular practice of legume inoculation. It costs so little—pays so much. For more than 50 years, more farmers have used NITRAGIN than any other inoculant. They buy it with confidence because NITRAGIN gets results. If you want bigger, better legume yields . . . if you want your soil to have more production power—always inoculate all legumes with NITRAGIN. Get the habit that gets results. Get NITRAGIN from your seedsman . . . in the orange-colored can.

THE NITRAGIN CO., Inc. • 3871 N. Booth St. • Milwaukee 12, Wis.

Pugh also urged the growers to store at least half their annual crop. "Freight cars are at a premium in the fall, labor is scarce to handle the crop and large terminal elevators are costly. What we would like to see is a steady supply of beans going to the processor so he can supply meal and oil to his customers throughout the year. That, alone, will offset foreign oil and meal imported to compete with us."

The problems of marketing and storage of soybeans were also discussed by Geo. M. Strayer, secretary-treasurer of the American Soybean Association, who was on the program.

New varieties should be available soon with a higher oil yield, G. E. Jones, field husbandry department, Ontario Agricultural College, told the group. Jones said Mandarins are proving to be the highest yielders of oil.

Blackhawks are showing good oil yields, good per acre yield and have the height and straw necessary for combining, Jones said. Monroes have not been consistent in their per acre yields, but have shown good oil content and are excellent for combining. Hawkevilles have good oil content and per acre yield but tend to be short for combining in Ontario, especially when grown on clay.

The film, Soybeans, the Feature Story, was shown twice during the meeting.

Other speakers included: Dr. F. Dimmock, Dominion Department of Agriculture, Ottawa; C. W. Owen, Dominion Experimental Farm, Harrow; Dr. A. A. Hildebrand, Dominion Experimental Farm, Harrow; Dr. S. J. Slinger, poultry department, Ontario Agricultural College, Guelph; Don McLachlin, Tupperville, Ontario; Gillis De Putter, Appin, Ontario; and James Ferris, sales manager, Ford of Canada.

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SOY OIL IN ZINC PAINT

The most effective way to add years of life to badly weathered galvanized roofing or siding is to apply metallic zinc paint, according to American Zinc Institute. It not only stops rust but restores the protection supplied by the original zinc coating.

Wire brushing of rusty galvanized roofing appears to be unnecessary to prepare a good surface for the application of zinc paint.

Metallic zinc paint, made by 150 manufacturers in this country, is a mixture of 80 percent zinc dust and 20 percent zinc oxide in linseed or soybean oil. It is battleship gray in color unless coloring is added.



Is this our answer to the Kolkhoz?

Make no mistake! This rich, peaceful American farm is on guard for America. It is part of a conflict that is now all too clear for our generation. It is the free world against the slave. Christianity against Communism.

None of us can avoid this matching of strength. Everything we have built is on trial. Each of us is matched against his counterpart in Russia—free man against slave. Business and industry developed under a profit, grow-ahead system against state-controlled industrial monopolies. You, a free American farmer tilling the soil you own or rent, against the Russian Kolkhoz—the collective farm where farmers are now driven by overseers to work the land the state has taken from them.

Our survival and final victory lies in the way the free American farmer is able to answer the Kolkhoz—to out-produce it by a tremendous edge so that those in service and those at home continue to be the best fed, best clothed people in the world. It lies in free American business and its

ability to roll forth the greatest array of machines and goods the world has ever seen. It lies in free Americans who live under a grow-ahead system and work for a goal, not a whip.

Our strength for the dangerous 'fifties is, strangely enough, in the very things some of the wild-eyed planners of the 'thirties and 'forties wanted to change to the Russian pattern of regimented farms and regimented business, regimented people.

As we face the dangerous years ahead, let's keep and build this strength we have. Let's keep and protect our grow-ahead system that has made us the envy of the world. It is the base of the only power that can answer the challenge of world-wide Communism.

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This Advertisement also appears in *The Farmer*, *The Dakota Farmer* and 12 other publications.

Lever Bros. Project in Missouri



New plant on 27-acre property in Pagedale, St. Louis County, Mo., to be built by Lever Bros.

Co. for manufacture of detergents, shortening and margarine. Lever Bros. recently announced a long-range, major construction program at Pagedale which will establish there one of the country's largest manufacturing centers for this type of products. Construction will start immediately on the first unit, a 5-million-dollar synthetic detergent plant.

PROCESSOR MEETING AT URBANA, ILL.

The program for the third annual Tri-State Soybean Conference of Processors and Agronomists to be held at Urbana, Ill., Mar. 21-22, has been announced.

All sessions will be in the Illini Union on the University of Illinois campus. The conference will be opened with a 6:30 p.m. dinner Mar. 21.

Chairmen of the various sessions will include R. J. Houghlin, president of the National Soybean Processors Association, Chicago, Ill.; Dr. W. L. Burlison, head department of agronomy, University of Illinois, Urbana, Ill.; and Ward Calland, managing director, National Soybean Crop Improvement Council, Decatur, Ind.

Speakers and their titles:

"Estimating the Price of Soybeans," G. L. Jordan.

"The World Fats and Oils Situation," G. L. Prichard.

"Soybean Varietal Improvement," J. L. Carter.

"Comparison of Soybean Oil Content at Various Locations in the Central Cornbelt," A. H. Probst.

"Soybean Research in the U. S.," W. M. Myers.

"New Knowledge on Soybean Inoculation," O. H. Sears.

"Preharvest Drying of Soybeans and Chemical Weed Control," R. F. Fuelleman.

"What the South Is Going to Do with Soybeans," C. D. Hoover.

"Response of Soybeans to Plow Down and Side-Dress Applications of Nitrogen Fertilizer on Irrigated and Non-Irrigated Soils," H. J. Mederski.

"Importance of Fat in the Dairy Ration," C. F. Monroe.

"Nutritional Value of Soybean Oil Meal," H. M. Scott.

GROWTH FACTOR IN FISH SOLUBLES

Combination of antibiotics with "factor X" in condensed "fish solubles," is one of the latest discoveries of science to improve the growth and development of livestock and poultry.

The combination in standardized rations has produced a 20 percent increase in the rate of growth of pigs from weaning time to 100 pounds. A similar combination has resulted in increased rates of growth ranging from 5 to 20 percent in chickens and turkeys.

This was reported by scientists at the feed mill division of The Glidden Co., of Cleveland, who explained that "factor X" is an unknown growth factor contained in condensed "fish solubles" obtained from the processing of stock water from Menhaden fish at the Growth Products Co., a Glidden affiliate, in Pascagoula, Miss. Condensed fish solubles are added during the preparation of Glidden's manufactured feeds at the Glidden Feed Mill in Indianapolis.

"Factor X" has not yet been clearly defined, but in its present form it is readily available and comparatively inexpensive. Condensed fish solubles contain vitamin B-12 activity, itself an important growth and reproductive factor, but fish solubles apparently support growth to a better advantage than shown by their B-12 activity.

The Glidden scientists point out that in all the recent excitement about the growth promoting properties of antibiotics, nutritionists have been inclined to overlook the significance of the important growth factors in certain products of fish origin, particularly condensed fish solubles.

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the NEW Allis-Chalmers

POWER STAR for family farms



CA
applies
tractor engine
power **3** new ways



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Every Saturday — NBC Network.

MARCH, 1951

Headline news from Allis-Chalmers is this new tractor that applies engine power to your farm work in more ways . . . more efficiently . . . than ever before in a tractor of this size.

The Model CA brings you a complete package of farm power — a system of wheel spacing and quick interchange of hydraulic implements that takes the WORK out of field work.

With the CA comes a wide line of hydraulically operated implements, including a close-coupled two-bottom pickup plow, Quick-Hitch "drive-in" cultivators and planters. Remote hydraulic control is extended even to trail-type implements.

The miracle touch of hydraulic control opens a new future of easier farming for you and your family. Try the CA and feel this new kind of power waiting to serve you.

- ★ **POWER SHIFT wheel spacing** adjusts rear-wheel width by engine power to match crop-row spacing.
- ★ **HYDRAULIC traction booster** automatically increases weight on drive wheels to match the load . . . for better traction . . . less fuel wastage and tire wear.
- ★ **TWO-CLUTCH power control** (optional) includes an auxiliary hand clutch that stops forward travel without interrupting power take-off.

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TRACTOR DIVISION • MILWAUKEE 1, U. S. A.

RECOMMENDS NEW LINES OF RESEARCH

At a meeting in Washington, D. C., Feb. 13-15, the Oilsseeds and Peanut Advisory Committee discussed the current and prospective needs for research on oilseed crops and their products in the light of national emergency conditions and made recommendations accordingly.

While recommending that certain lines of work previously considered important be held in abeyance, the Committee suggested that some of the Department's current work on oilsseeds and peanuts be expanded and that various new lines of work be initiated as soon as possible.

In the field of utilization the Committee specifically recommended that new or additional attention be given to:

1—The amount of dietary fats required by selected population groups.

2—The effect fats and oils in the diet have on the utilization of other nutrients, especially minerals and vitamins.

With respect to production research, the advisory group gave first priority to the need for increased work in developing superior varieties of flaxseed and soybean varieties better adapted to areas outside

the main soybean production areas. Other production research recommended by the Committee for expansion or initiation includes:

1—Investigate ways for controlling nematodes in the production of oilseed crops.

2—Determine factors affecting the germination of soybean seeds.

Regarding marketing research, the Committee recommended that the following lines of work be started or given additional attention:

1—Find better methods for determining the oil content of flaxseed and soybeans.

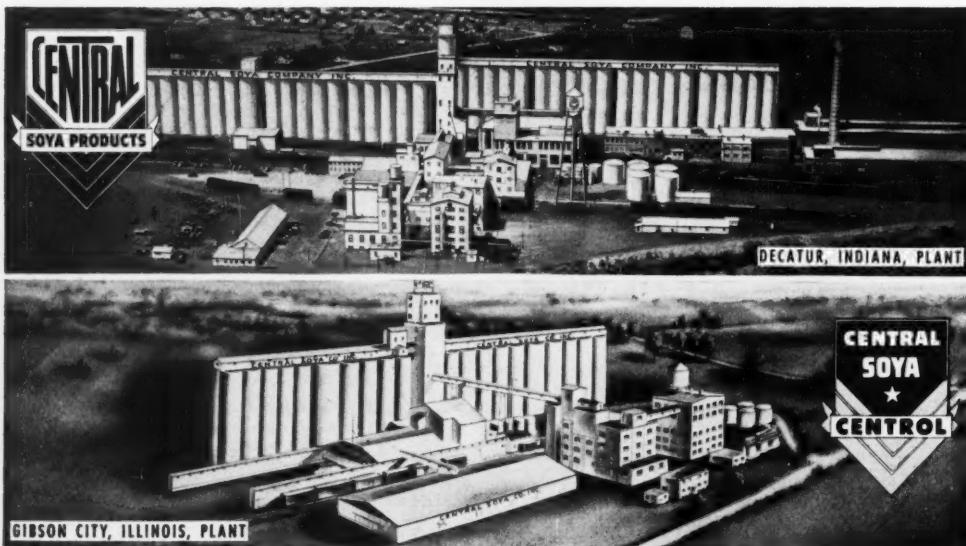
2—Determine the effect of changing from one oil extraction method to another (from screw press to solvent method), on the soybean oil crushing industry, market outlets, and returns to growers.

Harry J. Dueel, Jr., dean of the Graduate School at the University of Southern California served as chairman and at the close of the meeting was unanimously reelected to serve in this capacity. Other members in attendance were: Otto Brandau, producer, Rudd, Iowa; John H. Bryson,

president of the Dothan Oil Mill Co., Dothan, Ala.; William H. Fischer, manager of the Peanut Butter Division, Jewett and Sherman Co., Milwaukee, Wis.; T. H. Gregory, executive vice president of the National Cottonseed Products Association, Memphis, Tenn.; Howard Kellogg, Jr., president of Spencer Kellogg and Sons, Inc., Buffalo, N. Y.; Lloyd Mehlhouse, producer, Olivia, Minn.; A. D. Richardson, producer, Floresville, Tex.; Charles B. Shuman, president of Illinois Agricultural Association, Chicago, Ill.; S. E. Statham, producer, Cobb, Ga.; and Val Wurtele, president of Minnesota Paints, Inc., Minneapolis, Minn. Maurice Cooper, research coordinator in the Agricultural Research Administration, is executive secretary of the Oilsseeds and Peanut Advisory Committee.

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Aksel Jensen, chairman of a Marshall Plan group of 15 Danish farm organization leaders now studying U. S. agricultural research, production and marketing methods, thinks a new type of soybean used in America may be the answer to Denmark's problem of supplying protein feed for stock.



Serving American Industry
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FORT WAYNE, INDIANA

Help yourself get BETTER STANDS AND HIGHER YIELDS OF SOYBEANS

Even bad weather won't stop your crop from getting off to a good start if you plant treated seed. And seed injured by frost or during combining has a better chance if it's treated with Du Pont "Arasan" seed disinfectant.

That's because "Arasan" protects seed against seed rot, mildew, blue stain and other diseases. Experiment stations prove that "Arasan" increases stands—in some cases up to 100%!

Regular use of "Arasan" over a lifetime would cost you no more than just

one ruined crop because you pay only a few cents per acre to get the protection of "Arasan" every year.

For best results, treat the seed first—then inoculate just before you plant. "Arasan" protects seed from disease organisms and the inoculant helps the root system. Buy treated seed, or if you do the job yourself, follow directions on the "Arasan" package. For small grains and cotton use Du Pont "Ceresan" seed disinfectant. Du Pont, Semesan Section, Wilmington 98, Delaware.

Use seed treated with

ARASAN®

Disinfects and Protects Seed

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BETTER THINGS FOR BETTER LIVING
THROUGH CHEMISTRY

BOOKS

Guide to Growth Processes

John Wiley & Sons, 440 Fourth Ave., New York 16, N. Y., announced the publication of a new book, *Introduction to Agricultural Biochemistry*, by R. Adams Dutcher, Clifford O. Jensen, and Paul M. Althouse.

This book provides a guide to the chemical processes underlying plant and animal growth. Patterned after an earlier book on agricultural biochemistry written by Dutcher and D. E. Haley, the new volume emphasizes the latest developments in our knowledge of the physical and chemical changes in life processes.

Beginning with an analysis of the significance of agricultural biochemistry and a review of biologically important organic compounds, the authors then discuss the chemical facts and theories of plant growth from seed germination to maturity. Special emphasis is given to a discussion of the industrial utilization of farm products (chemurgy).

The biochemical phases of animal growth and metabolism are covered in the remaining parts of the book. Tables of recommended nutrient allowances for humans and domestic animals, and tables of chemical composition of selected human foods and livestock feeds, have been included for reference purposes.

Selling Chemical Products

When *Marketing of Chemical Products* by Robert S. Aries and William Copulsky first appeared in 1948, it successfully filled the need for a comprehensive and detailed

text book on the marketing, sales, and advertising aspects of the chemical process industries. Since then this unique book has continued to be the only one of its kind.

The continually growing demand for this book, both as a guide for companies in the chemical industry and as a text book in marketing courses at a number of universities, has enabled the publisher to reprint it twice.

Marketing of Chemical Products completely covers market research, commercial chemical development, technical sales and advertising, and technical service in the chemical industry—all illustrated with actual case histories. This book presents the real "know-how." It is a compilation and summary of the knowledge of almost eighty leading experts actually marketing chemical products.

MARKETING OF CHEMICAL PRODUCTS. By Robert S. Aries & William Copulsky. Third printing. 150 pages, lithoprint, paperbound, \$3. Order through Soybean Digest, Hudson, Iowa.

— s b d —

AFRICAN PLANTINGS

The Union of South Africa anticipates increased plantings of sunflower seed, soybeans, and cotton but decreased plantings of peanuts in 1950-51, reports J. L. Dougherty, agricultural attache, American Embassy, Pretoria.

Soybean acreage is expected to be about the same as last season when 10,000 to 12,000 tons (300,000 to 400,000 bushels) were produced. The government also for the first time established a pre-season price for soybeans of 70 shillings per 200 pound bag (\$98 per ton).

Reports indicate an increasing interest on the part of farmers in soybean production inasmuch as this

crop fits into the mechanization program which is rapidly developing in the country.

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HEADS GM SALES

Charles L. Burks, North Carolina businessman, has been appointed in charge of fatty acids sales for General Mills' chemical division, it was announced by Sewall D. Andrews, Jr., vice president of the chemical division.

Burks will be stationed in the division executive offices in Minneapolis. He succeeds Charles Greve, who has been called to serve in the U. S. Army.

Burks formerly operated his own business in Black Mountain, N. C., as a manufacturers' representative, covering the southeastern states. Among other lines, he handled General Mills chemical division products, including soybean oil, fatty acids, and chemical derivatives.

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NEW DANNEN PLANT

Chemical plants division of Blaw-Knox Co., Pittsburgh, Pa., has received a contract from the Dannen Grain & Milling Co., for process equipment and engineering for a new 130-tons-per-day soybean processing plant to be located at St. Joseph, Mo.

Equipment to be furnished by chemical plants division includes machinery for cracking, conditioning and flaking the soybeans, and solvent extraction processes for separating the oil and recovering the solvent. The extractor itself will be of the Rotocel type, a modern development by Blaw-Knox.

Engineering work includes design of footings and miscellaneous field work, erection of equipment, and installation of piping and wiring. The plant is scheduled for completion in time to accommodate the 1951 harvest.

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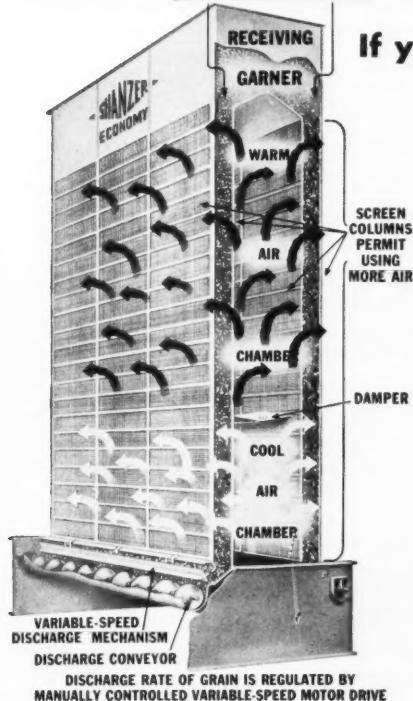
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Special machinery designed and built for the job.

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1931 North 11th Street
OMAHA, NEBRASKA

If you dry 300 bushels of Soybeans per hour....put your Soybeans in the top and watch **PROFITS** come out at the bottom!

use a **SHANZER** ECONOMY DRIER

Sketch illustrates unique SHANZER-BERICO principle of exposing the slowly downward moving mass of beans to huge quantities of low-temperature air. Every particle of heated air forced into this drier is used to reduce moisture-content, since no escape of air is possible except through the beans being processed. Automatic thermostatic controls make operation simple, hold down operating and maintenance costs.

30 feet high, including 4-foot receiving garner. 17 feet long by 12 feet wide over all. Prefabricated and shipped for quick, easy assembly and installation. For use with Natural Gas, Butane, Propane or Oil. Send for NEW Data Sheets today—no obligation.

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COLUMNAR GRAIN DRIERS • MAX-I-PACITY ELEVATORS • CONVEYING MACHINERY

PUBLICATIONS

Lines of Credit Open to Processors

A thoughtful study of the soybean industry with the stress on the various lines of credit open to the processor has been completed by a banking school student.

Processors are divided into three sizes for the discussion. Large processors have a daily capacity of 200 tons or over, medium 75 to 200 tons, and small less than 75 tons.

Seasonal lines of credit are often extended to soybean processors in amounts up to approximately three times the amount of working capital and often exceed the net worth. But these loans are usually secured by warehouse receipts for the soybeans secured. Although banks loan various amounts on warehouse receipts up to 90 percent of value, the author feels that loans should be limited to 80 percent of value.

Large processors because of their usually sound position can and do have seasonal unsecured loans up to approximately twice the amount of net working capital. On the other hand it is usual for no more than 20 to 25 percent of the loan of small to medium sized companies to be unsecured. Small companies have little if any unsecured loans.

The study concludes that the present condition of the soybean processing industry is sound.

FINANCING THE SOYBEAN PROCESSOR. By Richard E. Ramsey, Harris Trust & Savings Bank, Chicago, Ill. Submitted in partial fulfillment of the requirements of the Graduate School of Banking conducted by the American Bankers Association at Rutgers University, New Brunswick, N. J., June 1950. Accepted as part of the permanent library of the American Banking Association.

Protein in Rat Diet

Rats fed weaning purified rations containing 24 percent protein in the form of a commercial soy protein and DL-methionine produced young that had a very high mortality due to acute uremia of the newborn, in experiments at the University of Minnesota.

The addition of liver extract or condensed fish solubles to the ration of the mothers greatly increased the rate of survival of the young. The survivors in the litters on the unsupplemented rations reproduced for two subsequent generations with essentially the same rate of mortality.

Rats fed rations in which the commercial soy protein had been ex-

tensively purified produced first litters which had a relatively low mortality. In the second litters the mortality of the young was much increased.

The addition of liver extract to the ration containing the commercial soy protein had no significant effect on the length of the estrous cycle or on the number of corpora lutea, implants, and resorptions, or the number or weight of young produced in the first pregnancy.

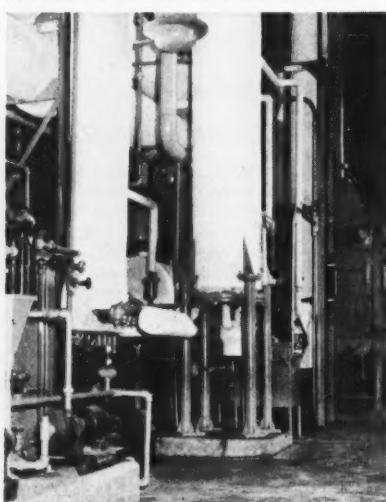
NUTRITIONAL VALUE OF PLANT MATERIALS. V. REPRODUCTION OF RATS FED PURIFIED RATIONS CONTAINING SOYBEAN PROTEIN. By M. O. Schultze, division of agricultural biochemistry, University of Minnesota, St. Paul, Minn. *Journal of Nutrition*, Philadelphia, Pa. Nov. 11, 1950.

Iodine Number Test

A simple, rather inexpensive refractometer has been developed for testing iodine number in soybeans and flaxseed. An account of this refractometer was carried in the July 1950 issue of the *Soybean Digest*.

Journal of the American Oil Chemists' Society publishes a more extended account of the instrument.

A SIMPLE IODINE-NUMBER REFRACTOMETER FOR TESTING FLAXSEED AND SOYBEANS. By W. Howard Hunt, M. H. Neustadt, A. A. Shurkus and Lawrence Zeleny. *Journal of the American Oil Chemists' Society*, Jan. 1951.



ASK ABOUT CROWN SAFE SOLVENT PROCESS FOR PROFITABLE EXTRACTION

Crown plants in various sections of the country are now producing an extremely high quality meal and prime oil. Crown plants are absolutely safe (non-explosive Trichloroethylene, is the solvent) and are inexpensive to operate. Units are adaptable to multiple construction and may be installed on location by the purchaser.

Write today for complete information. See how one of these units can benefit farmers and businessmen alike.

CROWN IRON WORKS CO.

1235 Tyler St. N.E.

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SOYBEAN DIGEST

Oklahoma Varieties

Tests show that Ogden and S-100 are the best varieties of soybeans for seed production in Oklahoma. Ogden is medium late in maturity and well adapted to the eastern half of the state.

S-100 has made the highest seed yields in the early maturing groups.

SOYBEAN VARIETY TESTS, 1926 TO 1949. By Chester L. Canode and James E. Webster. Bulletin No. B-356. Aug. 1950. Oklahoma Agricultural Experiment Station, Stillwater, Okla.

Cottonseed Meal Glues

Usage of glues made from cottonseed meals by the plywood industry is visualized by workers at the Southern Regional Research Laboratory, and the preparation of the glues is described.

PREPARATION AND UTILIZATION OF COTTONSEED MEAL GLUE FOR PLYWOOD. By Joseph T. Hogan and Jett C. Arthur, Jr., Southern Regional Research Laboratory, New Orleans 19, La. Journal of the American Oil Chemists' Society, Jan. 1951.

OFFER 3 FILMS ON SOYBEAN PRODUCTION

Soybeans—the Feature Story, is a 27-minute, 16-millimeter sound and color film prepared by the National Soybean Crop Improvement Council.

The story is told through the eyes of a reporter who is assigned the job of getting a feature story on soybeans.

The past history of the bean is briefly discussed and its many uses are told. You are taken to the Northern Regional Research Laboratory at Peoria, Ill., where you see first-hand the work being done there to find new uses for soybeans, and to improve old ones.

You are also shown shots of the work being done by the plant breeder to bring forth improved varieties of soybeans.

The highlight of the picture is a discussion between Dr. W. L. Burliison, head of the department of agronomy, University of Illinois at Urbana, and the reporter. The famed agronomist explains to the reporter just what some farmers have against soybeans and gets across the truth about soybeans and their effects on the soil, erosion, weed control and other crops.

This movie is good entertainment as well as educational. It gets its points across without trying to tell too much. It is a high class film for classroom work and can be shown to any group that has an interest in soybeans.

SOYBEANS—THE FEATURE STORY. Book through the American Soybean Association, Hudson, Iowa. You pay transportation cost either return to Hudson or to next booking.

Other films available through the American Soybean Association:

THE SOYBEAN STORY. A 25-minute sound and color film that tells the story of harvesting, production and usage of the crop. Produced by Allis-Chalmers Mfg. Co.

BEANS OF BOUNTY. A 20-minute sound and color film produced by Victory Mills, Ltd., Toronto. Though this film is beamed at Canada it tells just as good a story for the U. S. It does not deal with production to the extent of the other two but tells more about the value of soybean oil meal as a feed and the future of the crop.

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Del-mi-co SOYBEAN OIL MEAL

Recent tests prove Soybean Oil Meal cooked at 15 lbs. steam pressure is superior in feeding values to dry toasted meals.

All our meal after cooking passes through toaster to conditioner. Frequent by-passes avoid regrinding, thus preventing floury meal, and gives it a very uniform texture.

Terminal facilities for all Grains including
Soybeans, Corn, Wheat and Oats

Delphos GRAIN & SOYA PRODUCTS CO.

Delphos, Ohio

GRITS and FLAKES...

FROM THE WORLD OF SOY

To qualify its meal for higher trade specifications now current, the Soya Processing Company of Wooster, Ohio, has further modernized its soybean solvent extraction plant by the installation of a Blaw-Knox pressure toaster.

A public hearing to consider either revoking the federal Japanese beetle quarantine or extending it to include the states of Georgia, Illinois, Indiana, Kentucky, Michigan, North Carolina and South Carolina has been scheduled at Washington, D. C. Mar. 30 by the Secretary of Agriculture.

George M. Browning became associate director of the Iowa Agricultural Experiment station at Ames Mar. 1. He went to Iowa from the U. S. Department of Agriculture as senior soil conservationist in 1941. For past two years he has been working to integrate the research and extension programs of the college.

James Edward Tipton, graduate of James Milliken University, has been employed as a research junior chemist in the technical department of the A. E. Staley Mfg. Co., Decatur, Ill.

Stories about the soybean processing plant of the Farmers Cooperative Elevator Association at Blooming Prairie, Minn., appeared in the November issue of New Leader, New York City, and the February issue of News for Farmer Cooperatives, Washington, D. C.

Story of Springfield (Ill.) division of the Illinois Central Railroad in Jan. 1951 issue of Illinois Central Magazine devotes some space to the soybeans grown in the Illinois-Indiana area served by the road.

"Sprayed Frost Hurries Harvest," is a story of artificial drying of soybean fields in the February issue of Capper's Farmer.

Reynolds flow-regulating valve for exact setting of the regulated flow of water or other liquids is described in a bulletin by Reynolds-Shaffer Co., 12100 Cloverdale Ave., Detroit 4, Mich.

Ford M. Ferguson has been named vice president of the Glidden Co. in charge of all of the firm's trading operations. He has been prominent in the commodity trading industry for many years. He joined the Glidden Co.'s soya products division early in 1948. He will continue to make his home in Chicago.

W. I. Tebo has been appointed Washington engineering consultant and technical director for Detrex Corp., Detroit 32, Mich. He has been with the firm 19 years and has vast experience in basic engineering research.

Chemical Process and Plant Engineering is a new bulletin offered by R. S. Aries and Associates, 400 Madison Ave., New York 17, N. Y.

J. A. Metzger, of the general personnel department, Bemis Bro. Bag Co., St. Louis, Mo., has been recalled to active duty as lieutenant commander in the Navy. He joined Bemis in Sept. 1949.

John R. Roche has rejoined Mente & Co., New Orleans bag manufacturers, and will take over his former sales territory in Nebraska-Kansas-west Missouri. His headquarters will be in Kansas City.

The Massey-Harris Co., Racine, Wis., has announced that the new 1951 edition of its Buyer's Guide is just off the press and available for distribution. The 40-page catalog illustrates and describes nearly all of the company's full line of modern farm machines and implements.

Albert E. Wiggin in his illustrated strip, "Explore Your Mind," says the country is neglecting soybeans as one food weapon against communism.

HEADS ALLIS-CHALMERS



W. A. ROBERTS

W. C. JOHNSON

W. A. Roberts, one-time Missouri farm boy, has been appointed president of the Allis-Chalmers Manufacturing Company, one of the nation's leading farm and general machinery builders. Roberts, former head of the company's tractor division, succeeds the late Walter Geist, who died Jan. 29.

William C. Johnson, former head of the general machinery division, was elevated to executive vice-president of the company.

R. S. Stevenson, former general sales manager of the tractor division, has been advanced to vice-president in charge of this division.

Roberts will guide the 104-year-old manufacturing company's plants in the United States, England, Canada, and Mexico.

— s b d —

OBSERVES 50th YEAR

The year 1951 marks the Stephens-Adamson Manufacturing Co.'s 50th year in the production of materials handling equipment at its Aurora, Ill., plant. The company began operations in a single 80-by-120-foot building in June 1901. Today it occupies a 13-acre site with branch plants at Los Angeles, Calif., and Belleville, Ontario and sales offices in principal cities in the U. S. and throughout the world.

Stephens-Adamson has made many important contributions to progress in the materials handling field. These include the first commercially successful self-unloading bulk freight boat on the Great Lakes, in 1907; and the first centrifugal box car loader in 1927. This unit has revolutionized loading methods for bulk materials shipped in box cars.

Stephens-Adamson introduced the "en masse" Redler conveyor in 1932, finding a tremendous demand in the chemical and food industries.

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Glidden research, concentrated on the business of realizing the full promise of the versatile soybean, has produced a host of soya materials which are now playing useful roles in the manufacture of a wide variety of products. These include paper, wallpaper, insulating board, paint, floor coverings, textiles, rubber, leather, insecticide sprays, fire-fighting foam, gasoline, grease, oil, adhesives and emulsions. A complete technical service is available to help determine the value of any soybean material in any product.

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In the all-out production effort for 1951 it is doubly important that you realize your full yield potential. Spergon can be a vital factor in this over-all goal.

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Spergon and Spergon-SL are highly effective in saving your soybean seed from blight, rot, decay and smut . . . compare the following advantages:

- compatible with legume inoculants
- effective on a wide range of seed
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- non-irritating to most operators
- effective at economical dosages
- effective for long periods after treatment and storage
- non-injurious to most seed in excess of recommended dosages
- relatively low cost per unit of seed treated
- lubricating nature results in lower seed breakage in planter

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Ask about Spergon today—available through leading agricultural chemical distributors.



UNITED STATES RUBBER COMPANY

Naugatuck Chemical Division, Naugatuck, Conn.

Manufacturers of seed protectants—Spergon, Spergon-SL, Spergon-DDT-SL, Phygon Seed Protectant, Phygon Paste, Phygon-XL-DDT—fungicides—Spergon Wettable, Phygon-XL—Insecticides—Synklor-48-E, Synklor-50-W—fungicide-insecticides—Spergon Gladolus Dust, Phygon Rose Dust—miticides—Aramite—weed killers—Tuior-40.

Stolen from the office of Farmers Cooperative Association, Ralston, Iowa, was \$193.71 when the office was broken into the night of Dec. 21.

A storage tank 40 x 100 feet has been added to the storage facilities of Cargill, Inc., processing plant at Spencer, Iowa.

Three new members elected to the board of directors of Fulton Bag & Cotton Mills at the annual stockholders' meeting Jan. 9 were E. Monroe Hornsby, manager of Fulton's New York office; Norman D. Cann, Washington, D. C., attorney, and Fredric G. Barnet, at present with Fulton's Dallas, Tex., plant.

Featured topic at the Illinois Custom Sprayers' training school at the University of Illinois, Urbana, Jan. 18-20 was chemical defoliation of soybeans.

Ralston Purina Co. has purchased Merit Mills, Inc., which includes major milling operations at Oklahoma City, Okla., and Amarillo, Tex., and smaller plants at Muskogee and Sayre, Okla. Present Merit personnel and dealer organization will be retained, and Merit Feeds as well as Purina Chows will be manufactured.

"S-815 Flat-Top Conveyor Chain" is the subject of a new four-page illustrated Folder No. 2344 published by Link-Belt Co., 307 N. Michigan Ave., Chicago 1, Ill., giving dimensions and data on this light, durable, efficient type of conveyor chain and its cut-tooth sprocket wheels.

A six-page bulletin just published by the Sparkler Manufacturing Co., Mundelein, Ill., describes in detail the company's new line of Model SC filters. These compactly built, self-cleaning filters are designed to filter large volumes of water and other liquids rapidly and at low cost.

Minnesota Linseed Oil Co., Minneapolis, has promoted John M. Strate to manager of oil meal sales and Ray J. Lindquist from oilseed buyer to manager of oilseed purchases.

Eleven firemen and two employees of the Farm Bureau Cooperative Association, Springfield, Ohio, were overcome by fumes of trichlorethylene when a break occurred in a stand of elevators carrying off treated flakes Dec. 21. The men quickly recovered in a hospital.

John F. Hofmeister, Clinton, Ill., has been appointed sales promotion assistant in the feed sales department of the A. E. Staley Manufacturing Co., Decatur, Ill. He was formerly an account executive with Kane Advertising Agency, Bloomington, Ill., and a salesman with R. H. Donnelley Corp., Chicago.

Edward G. Egan has been appointed to head American Mineral Spirits Co.'s chemical department and will be responsible for the sales of Amsco's complete line of chemicals. He will be located in the firm's New York office.

Archer-Daniels-Midland Co. has sold its Portland, Ore., flaxseed process-

AMSCO REPRESENTATIVE



William A. Oudshoorn has been appointed as a sales representative for American Mineral Spirits Co., Chicago, it was announced by Max A. Williams, vice president in charge of sales. Bill Oudshoorn will represent Amsco in the Midwest territory in connection with further expansion of Amsco's sales staff.

Bill has been associated with Amsco for 10 years. His headquarters will be American Mineral Spirits Co.'s Chicago office.

— s b d —

OHIO FOOD FIRM SOLD

Sale of the Mount Vernon, Ohio, plant of International Nutrition Laboratory, manufacturer of soy foods, to Loma Linda Food Co. of Arlington, Calif., was announced recently.

Dr. Harry W. Miller, who established the plant in 1939 after Japanese bombs destroyed his plant at Shanghai, said Loma Linda will continue to make a soy milk which has been the chief product of the local plant, and will establish its eastern distribution headquarters at Mount Vernon.

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multi-storage availability
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**STORAGE FACILITIES and
WATER TERMINALS** in industrial centers give added convenience to the users of Esso Hexane. Shipments are made to meet users' requirements... by tank cars, tank trucks or drums. Specify Esso Hexane for dependable, convenient delivery right to your door!

You get all 6 of these important features with Esso Hexane

1. **MULTI-STORAGE AVAILABILITY**—water terminals in industrial centers.
2. **UNIFORMITY**—made in modern refineries from carefully selected crude oil sources.
3. **HIGH OIL RECOVERY**—results from "balanced solvency." Recovered oil has good color and refining properties.
4. **EFFICIENT SOLVENT RECOVERY**—narrow boiling range allows complete removal from extracted oil and meal.
5. **PURITY**—high purity helps prevent non-recoverable residues. Low non-volatile content (specification limits non-volatile content to 28 parts per million maximum).
6. **MODERN HANDLING METHODS**—separate tank storage, pumping lines, tank cars and trucks, are used in all Esso Solvent handling operations.

Esso Solvents:
versatility and
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high quality.



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ing plant. The lack of sufficient flax production to make the operation profitable is given as the reason. * * * *

Paul Bauch, manager of Doughboy Industries processing operation, Fairfield, Iowa, was elected a director of the Western Grain & Feed Dealers Association at the recent convention in Des Moines. * * * *

Eugene E. Woolley, vice president of General Mills, Inc., chemical division and manager of the Belmond, Iowa, plant, has been transferred to the firm's executive office at Minneapolis. He is now in charge of manufacturing at all plants in the chemical division. * * * *

Arthur E. Frank, Dannen Mills, Inc., St. Joseph, Mo., was reelected president of the St. Joseph Grain Exchange Jan. 9.

David W. Martin has been promoted to head of all poultry and broiler feed operations of feed and soy division of Pillsbury Mills, Inc., Clinton, Iowa. * * * *

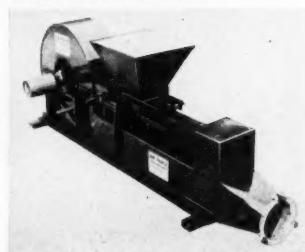
Fred J. Blacker has been elected secretary of Spencer Kellogg & Sons, Inc., Buffalo, N. Y. He succeeds Harry J. Aldrich who retired Jan. 1 after 38 years with the firm. Black is also head of the import department. * * * *

Vaughn M. Thorne is the new secretary of the Ohio Grain, Mill & Feed Dealers Association. His office is 12 N. Third St., Columbus. * * * *

L. B. Lovitt, founder of the Memphis cottonseed and soybean products brokerage firm bearing his name, Memphis, Tenn., was honored at a buffet supper Jan. 19 for his almost 20 years as president of the Memphis Merchants Exchange Clearing Association.

George F. Thomas was elected president of Prater Pulverizer Co., Chicago, at a recent meeting of the board of directors. He will also continue in his former capacity of general manager. Mr. Thomas who has been with the firm for 20 years, succeeds the late Ralph Prater as head of the company.

NEW BLOWER UNIT



A unit that dries, cleans and moves grain—the Air Force Grain Blower—is now available through Seedburo Equipment Co., Chicago, according to R. D. Harfst, vice president.

The Air Force Blower and Conditioner carries all types of small grain, seeds, malt, rice, peas, beans, flax and corn, as far as 250 feet, or more, instantaneously. It will handle 300 to 1,000 bushels per hour through a spout into grain bins or cars. Yet, it will not break, bruise, crack or injure any grain, corn or seed, according to the company.

The Air Force Blower is only 30 inches in height and 8 feet in length.

FULTON QUALITY TEXTILE BAGS HAVE a DOUBLE LIFE

When you ship soybean meal in textile bags, either burlap or cotton, you are giving a plus value to your customers. Empty textile bags have a high salvage or reuse value that is welcomed by feed mills or farmers. Sturdy cotton and burlap bags are more resistant to tearing or snagging, stack and handle easier, and because of their neat, fresh appearance add prestige to your brand. Call or write your nearest Fulton Factory Branch for full information and prices.



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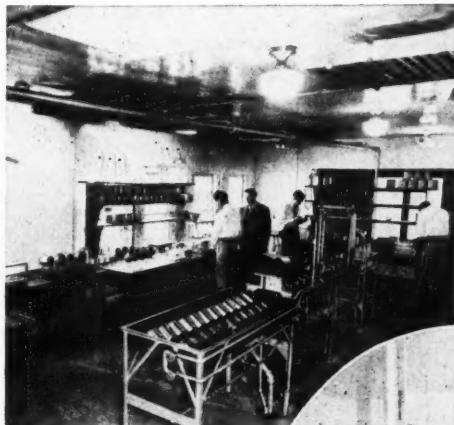
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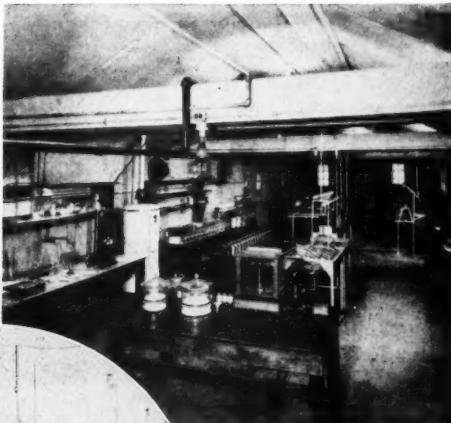
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6

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WASHINGTON DIGEST

SOYBEAN CEILING. Office of Price Stabilization officials are not too happy over their soybean price ceiling order of February 12. It was a rush job forced by the booming soybean futures market just ahead of the ceiling order.

Officials are frank to admit privately that the soybean order is not a polished job. Several gaps were left unfilled, and inequities were bound to develop.

Certain modifications in the order are bound to come. But price men handling the soybean order are determined on one thing: They will resist to the utmost raising the ceiling price at Chicago.

The spread between Chicago and state ceilings has produced an uproar from traders. State ceilings are so high in relation to Chicago (or Chicago ceiling is so low in relation to the states, depending on viewpoint) that beans can't move to Chicago.

Officials were determined not to raise the Chicago price. Unofficially, they say state ceilings could be lowered at least 2 cents without danger of bumping into the legal minimum ceilings.

But this would involve a rollback. This is not desired and it would not be enough. It's figured the spread would have to be widened at least 5 to 7 cents to correct the situation.

With the recent break in soybean futures prices probably no action will be taken. Officials think that once the trade feels sure the Chicago price will not be raised settlement of futures will be worked out without too much difficulty.

This apparently is what happened: State soybean ceilings in the highest area (Illinois) are 7 cents above the legal minimums calculated by the Department of Agriculture—\$3.23 compared with \$3.16. In some states the difference is a good deal greater. The Chicago ceiling apparently reflects a differential off the USDA minimums rather than the state ceilings established.

For the Southeastern states and others well outside the soybean producing area, USDA had figured a flat rate of about \$3.01 a bushel as the legal minimum. Actual ceilings for these states are \$3.18.

Price stabilization officials figured they had to set state ceilings well above the legal minimums so as to be sure to clear all peak prices in the May-June pre-Korea period. Otherwise, they might be subject to legal action.

The dollars-and-cents ceilings on soybeans are of course subject to refinement. But the ceiling level is likely to stand for some time. On the average, the ceilings run at least 10 cents, and probably more, above the legal minimums set by USDA.

By PORTER M. HEDGE

Washington Correspondent for
The Soybean Digest

Parity for soybeans is still well below the legal minimum. So far as the parity requirement of the price law is concerned, there will be no legal pressure against soybean ceilings for at least a year, and probably two years.

Farm costs as reflected by the parity index would have to increase more than double the rise between the outbreak of war in Korea and January 15 before soybean parity would begin to bump against present ceiling levels.

No ceiling for exporters was spelled out in the original price order. However, officials say an exporter could use a weighted average price based on the state ceiling in which the port is located, plus freight. An amendment to clarify the position of exporters has been in process for several weeks.

FEEDS. Another order intended to relieve feed manufacturers is out. Under the original freeze order, feed manufacturers were allowed to pass on the increase in ingredient costs above the Dec. 19-Jan. 25 base period.

But when the dollars-and-cents ceiling came on soybean meal, this provision no longer applied. Legally, feed mixers could no longer add to their sales price the increased cost of meal.

The new order permits manufacturers to reflect any increase in meal costs above those paid in the base period. The same will apply to grains, when ceilings are established.

FATS, OILS. Vegetable oil pricing officials in OPS are standing pat on the three-cent spread between ceilings for soybean and cottonseed oil, despite protests, particularly from expeller operators.

The three-cent spread is admittedly wider than normal, due to the short supply of cottonseed oil. But all the signs indicate the present ceilings will stand until the new crop season is well along. Then there will be a review of all fats and oils ceilings, and if the cotton crop is as

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large as hoped for, adjustments are likely.

The fats and oils ceiling order itself suggests this. A "statement of considerations" attached to the order says:

"The establishment of price ceilings on fats and oils has taken place in the latter part of a year extremely abnormal in respect to domestic supply, and to demand both domestic and foreign. The aim is to establish ceiling prices workable until new crop conditions can be visualized. All fats and oils ceilings will be subject to review at that time."

FORECAST. Price economists here figure soybean prices during the next marketing year will average about the same as this season—or not far from \$2.90 a bushel for the country as a whole.

A decline of 20 to 40 cents below this figure is expected during the harvest season next fall. These estimates are based on a 13-million-acre soybean harvest and a cotton crop of at least 15 million bales.

More inflation is anticipated during the year, and more exports of soybeans are expected. These are figured to offset the effects of a larger cottonseed crop.

Edible oil prices are expected to hold close to the ceilings during the next season, but not tight against ceilings. A decline in lard below ceilings is anticipated.

Soybean meal prices are figured to remain close to the \$74 a ton ceiling at Decatur most of next season, except for a normal decline when the heavy crushing season is on.

With an average crop, corn prices are likely to remain close to the corn ceiling. If so, the anticipated farm price for soybeans would average 1.6 to 1.7 times the farm price for corn.

SUPPORT. The support price for 1951-crop soybeans is now fixed at \$2.45 a bushel, compared with \$2.06 for 1950. This is based on 90 percent of January 15 parity, and won't be changed due to change in parity between now and next fall.

The same is true of price supports announced for four grains. The fixed 1951 rate for oats is 72 cents a bushel, 1 cent higher; for rye \$1.30 a bushel, up 2 cents; for barley \$1.11 a bushel, up a cent; for grain sorghums \$1.38 a hundred, a cent higher. These are all set in relation to parity for January, and are not to be raised as parity goes up, according to present plans.

The opposite is true of corn. Corn parity next fall is unofficially

estimated at \$1.79 a bushel, and the corn ceiling can't be set lower unless the price law is changed. At this parity level, the corn loan rate would be \$1.61 a bushel, or 11 cents higher than the 1950 rate.

CEILING ORDERS. Following are the ceiling orders on soybeans, meal and oil by the Office of Price Stabilization.

(General Ceiling Price Regulation, Supp. 3)

(b) Ceiling prices for soybeans—(1) Base ceiling prices for yellow and green soybeans. The base ceiling price for No. 1 and No. 2 yellow soybeans and for No. 1 and No. 2 green soybeans (i) delivered at Chicago is \$3.33 per bushel, and (ii) for other areas is:

Per bushel

Illinois \$3.23

Indiana 3.22

Iowa 3.22

Kansas	3.21
Kentucky	3.20
Michigan	3.21
Minnesota	3.20
Missouri	3.21
Nebraska	3.21
Ohio	3.22
South Dakota	3.20
Tennessee	3.20
Wisconsin	3.21
All other States	3.18

(2) Base ceiling prices for black, brown, and mixed soybeans. Base ceiling prices for black, brown, and mixed soybeans shall be 25 cents per bushel less than the base prices in subparagraph (1) of this paragraph.

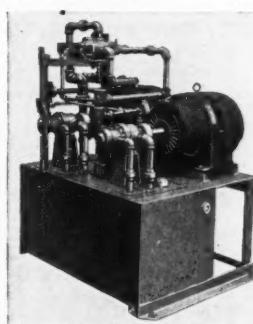
(3) Ceiling prices at various marketing levels. (i) If you are a seller through a Commodity Merchant, ceiling price for No. 1 and No. 2 yellow soybeans and for No. 1 and No. 2 green soybeans delivered at Chicago shall be \$3.33 per bushel.

(ii) If you are a seller through a Commodity Merchant, ceiling price for No. 1 and No. 2 yellow soybeans and for No. 1 and No. 2 green soybeans delivered at Chicago shall be \$3.33 per bushel.



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- Unloads all sizes of Trucks and Tractor Trailers.
- Sizes—40'x10', 45'x10', and 50'x10' Platforms. Other sizes on special order.
- Capacities up to 100,000 lbs.
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- Easy, trouble-free operation. Simple, positive, one-man Controls.
- Telescoping Hydraulic Cylinders require only a shallow pit. Hydraulically operated Wheel Stops.



Powerful TWIN Hydraulic Unit

UNLOADS all sizes of Trucks and big Tractor Trailers in a "jiffy." Takes all the time-stealing hard work out of unloading, eliminates waiting time and keeps trucks on the go. In less than 2 minutes they're unloaded and on their way. You save time, work, money!

Powerful TWIN Hydraulic Unit. Raises to full height in 41 seconds, lowers in 20 seconds. Maximum safety because of "oil-locked" hydraulic control and cushioned lowering. No danger of accidents.

Easy operation and simple controls . . . one man operates the Dumper and Wheel Stops from one location where he can see and control the complete unloading operation. Greatly reduces labor costs.

Evidence of KEWANEE performance and economy is overwhelming. It is substantiated by successive repeat orders from leading firms who have installed them at all their plants.

One elevator reports unloading more than 1,000,000 bu. of grain in one month's operation with two man crew, averaging over 100 trucks each working day.

The KEWANEE Dumper will widen the area you can serve and increase your volume. Truckers appreciate "no long waiting in line" and they tell others. It attracts new customers and builds your business. Find out today how KEWANEE will solve your unloading problems.

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(iii) If you operate a country elevator your ceiling price f. o. b. cars or barges or trucks at your elevator is the Chicago base ceiling price less transportation charges, or the applicable base ceiling price for your state, whichever is higher. If you determine your ceiling price f. o. b. truck at your elevator, as indicated above, you may add to your ceiling price three cents per bushel for delivery by truck to the processor's plant or to the large loading elevator. If you ship by rail from your elevator which can load to barges, your ceiling price is the Chicago base ceiling price less the applicable railroad freight rate, or the state base ceiling price, whichever is higher.

(iv) If you are the producer, your ceiling price is the ceiling price of the country elevator, to which you customarily delivered your soybeans, or the appropriate elevator and handling charges provided by the Uniform Grain Storage agreement.

(v) If you are a truck merchandiser, or a commission merchant in any terminal market or grain exchange other than Chicago, your ceiling price is the appropriate country elevator ceiling price plus two cents per bushel.

(vi) If you are a terminal or subterminal merchandiser, and you unload the soybeans into your elevator, or warehouse from cars or barges, your ceiling price is your supplier's ceiling price plus your delivery to you, plus the cents per bushel plus your published tariff charge for elevation, plus the transportation charges actually incurred.

(4) This paragraph shall not apply to deliveries made pursuant to written contracts for sales of soybeans entered into after January 25, 1951 and before the date of issuance of this supplement if such contracts complied with the provisions of the General Ceiling Price Regulation.

(5) **Seed Soybeans.** This paragraph shall not apply to soybeans sold for use in planting.

(e) **Ceiling prices for soybean oil meal.** If you are a processor and you sell soybean chips, soybean oil cake, or 41 percent soybean oil meal, soybean flour, or 41 percent soybean flour meal, your ceiling price in carload lots, bulk, is \$74.00 per ton of 2,000 pounds, f. o. b. cars, Decatur, Illinois. This ceiling price may be adjusted by the differentials established during the base period, as to sacks and sackings, sized cake and pellets, soybean hulls, soybean mill feed, packaging, quality, location, and for deliveries in smaller quantities. Ceiling price for jobbers, car door sellers, wholesalers, and retailers, shall be your supplier's price on his sale and delivery to you plus your customary dollars-and-cents markup.

(d) This section shall not apply to sales at retail of any of these commodities:

Effective date: This supplement is effective immediately.

Edward F. Phelps, Jr.,
Acting Director of Price Stabilization,
February 1951.

Sec. 4. **Ceiling prices for sellers of crude soybean oil.** Your ceiling price for sale of soybean oil shall be as follows:

(a) **Crude soybean oil.** In tank cars, in cents per pound, as follows:

California, Oregon, Washington	F.o.b. mill	21%
Arizona		21%
Alabama, Arkansas, Florida, Georgia, Illinois, Kansas, Louisiana, Mississippi, Missouri, New Mexico, Oklahoma, Tennessee, Texas		20%
Iowa, Minnesota, Nebraska, North Dakota, South Dakota	F.o.b. Decatur, Ill., plus freight to destination	20%

Delaware, Indiana, Kentucky, Michigan, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Virginia, Wisconsin. 20%

(1) These crude soybean oil ceiling prices shall be adjusted on a 7% refining loss basis as provided in Rule 102 of the 1950-51 Rules of the National Soybean Processors Assn.

(2) Where (i) crude soybean oil is sold and delivered to a buyer to whom it may be shipped for no more than a switching charge and (ii) where the processor charges a premium for such oil to take a premium when sold by a seller in that locality to a buyer located within in that locality's switching limits, the ceiling price shall be the prices set forth above, plus the premium that customarily prevailed in that locality on such sales prior to Jan. 1, 1951.

(3) **Crude soybean oil futures.** The ceiling price for crude soybean oil futures contracts traded on the New York Produce Exchange and the Chicago Board of Trade shall be 20.50 lb.

(c) **Refined soybean oil.** Your ceiling price for refined soybean oil shall be determined by applying your customary differentials for grade, location and container above the crude soybean oil ceiling price established in section 4 (a) of this regulation.

(1) **Adjustments for premium quality.** If you are an individual seller of refined soybean oil and have customarily charged a premium over the market price for a grade of such oil, you may apply in writing to the Director of Price Stabilization, Washington, D. C., for an adjustment in your ceiling price for such premium quality oil. This application shall contain all pertinent information describing the quality characteristics of the particular grade of oil and documentary evidence that you have customarily charged the premium. After March 1, 1951, you may not charge the premium price without the written approval of the Director of Price Stabilization. Until March 1, 1951, you may charge your customary premium over the applicable ceiling prices in section 3 (b) of this regulation.

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REPEAL IN WYOMING

Wyoming Feb. 17 became the 35th state to permit the sale of yellow margarine.

Governor Frank A. Barrett of Wyoming signed a bill repealing prohibitions against the pre-colored table spread. The bill had previously passed both houses in the state legislature.

The action enables consumers of Wyoming, one of the country's leading livestock states, to take advantage of the repeal of federal taxes on yellow margarine which went into effect in 33 states last July. Michigan also joined this group in November, following a special state referendum.

Wyoming housewives now can buy yellow margarine ready to serve and at no extra cost.

Today only 13 states still forbid the sale of yellow margarine. However, legislatures in all these states are now in session, and determined attempts by consumer, business, and farm groups to effect repeal of the anti-margarine laws are already underway in New York, Pennsylvania, Illinois, Delaware, Connecticut and others.

— s b d —

PROHIBIT SOY OIL

Proposed Federal specifications for mayonnaise and salad dressing purchases for the Armed Forces, still prohibit the use of soybean oil as a fatty ingredient, according to Food Packer and Canning Age. The specifications of 1943 also prohibited soybean oil, but the continued omission of this ingredient has a far greater effect today.

Soybean oil production has doubled since 1943, and nearly 60 percent of total salad dressing products produced last year contained soybean oil, according to the Mayonnaise and Salad Dressing Manufacturers Association.

Under existing and proposed specifications, it will be necessary for producers of the greater part of the industry's output to change their formulas, or pass up government contracts.

The government's insistence on cottonseed and/or corn oil is based upon the better keeping qualities of these oils, the association says.

Here are the oil usage figures reported by the association:

Type of Usage	Usage of Vegetable Oils in Commercial Production of Salad Dressing Products—1949	
	Gallons of Product	No. of firms
Cottonseed oil, exclusively	6.4	44
Corn oil, exclusively	2.0	30
Cottonseed and/or Corn oil, with other oils, except soybean	27.8	25
Soybean oil, either with other oils or exclusively	49.1	40
Total	85.3	139
Soybean oil usage type as percent of total	58%	29%

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SOYBEAN OIL MEAL
PEANUT MEAL

Cake — Pellets — Cottonseed Hulls
Domestic and Export

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have
GREATER CAPACITY

and will operate more efficiently at less cost than other elevator cups.

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--- MARKET STREET ---

We invite the readers of THE SOYBEAN DIGEST to use "MARKET STREET" for their classified advertising. If you have processing machinery, laboratory equipment, soybean seed, or other items of interest to the industry, advertise them here. Rate: 5¢ per word per issue. Minimum insertion \$1.00.

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presses 3-30" Plate and Frame, 3-24" Plate and Frame, open delivery. Excellent used six high 85" *French Cookers or Toasters*, 30 H.P. motors—\$3,500.00 each. Pitcock and Associates, Glen Ridgle, Pa.

FOR SALE: ALL TYPES USED OIL mill equipment, Hydraulic, Screw-Presses, Expellers, Cookers, Toasters, various size Filter presses. If used in Oil mill we have it. V. A. Lessor & Company, P.O. Box No. 108, Phone Market-3352, Fort Worth, Texas.

FOR SALE—UNION IRON WORKS grain elevator, complete, 130 ft. 16 in. 5 ply rubber belt; 15 in. x 7 in. buckets. 5 H.P. motor. Kelly Duplex Truck Hoist, 3 H.P. Geared-Head Motor Drive. This equipment is new, has not been used. Can give immediate delivery, also saving in price. Martin Bros., Walton, Ind. Phone or write Jesse G. Martin.

SEED DIRECTORY

A charge of \$1 will be made to subscribers for listing in the April issue. Quantity for sale and variety are listed.

ARKANSAS

Burdette—Burdette Plantation, 5,000 bu. state certified Dorchsoy No. 2.
Burdette—G. A. Hale, Hale Seed Farms, 2,000 bu. certified Hale Ogden 2.
Stuttgart—D. P. Oaksmith, Pioneer Seed Farms, Inc., 1,500 bu. certified Dorchsoy No. 31, 5,000 bu. uncertified Ogden, 5,000 bu. uncertified Ralsoy, 5,000 bu. uncertified Voistate, 10,000 bu. uncertified Tanner.

ILLINOIS

Manhattan—Earl Keniston, Rt. 1, 800 bu. certified Adams.
Mattoon—Leslie Dally, Rt. 1, 500 bu. certified Adams.
Pontiac—Pike Hybrid Corn Co., Box 371, certified and uncertified Hawkeye, Lincoln, Adams, Wabash, Monroe and Blackhawk, in truck or car lots, bagged or bulk, shipped to buyers' specifications.
San Jose—Kelly Seed Co., 5,000 bu. certified Hawkeye, 4,000 bu. uncertified Hawkeye, 3,500 bu. certified Lincoln, 4,000 bu. uncertified Lincoln, 600 bu. certified Adams, 800 bu. certified Wabash.
Virginia—C. C. Taylor, Rt. 2, 600 bu. certified Adams.

INDIANA

Evansville—J. A. McCarty Seed Co., 526 N.W. Fourth St. CL or TL certified and uncertified Wabash, CL or TL uncertified Lincoln, CL or TL uncertified Kingma.
Fort Wayne—O. L. Bryant, Rt. 4, 900 bu. foundation certified Hawkeye.
Remington—Chester B. Biddle, 500 bu. certified Lincoln, 1,500 bu. certified Hawkeye.
Remington—Silver Lane Farms, 1,000 bu. certified Earlyana, 500 bu. certified Richland, 750 bu. certified Hawkeye, 1,000 bu. certified Lincoln.
Valparaiso—Wyckoff Hybrid Corn Co., Rt. 3, 1,500 bu. certified Hawkeye, 300 bu. certified Richland, 300 bu. uncertified Earlyana.

MARCH, 1951

Windfall—Mitchell Farms, 2,000 bu. Hawkeye, 2,000 bu. Lincoln and 1,000 bu. Wabash, all certified and foundation seed.

IOWA

Belle Plaine—Fred McCulloch, 350 bu. certified Adams, 94% germination, \$4.50 per bu.

Davenport—Norman Frye, Rt. 4, 2,000 bu. or more Adams, germination 93%.

Duncombe—W. K. Powers, Rt. 1, 400 bu. certified Adams.

Remsen—Frank Lenertz, Rt. 3, 1,050 bu. certified Adams, 800 bu. certified Hawkeye, 350 bu. certified Lincoln.

Sully—Ed Schnell, Rt. 1, 300 bu. certified Adams.

MICHIGAN

Britton—Mueller Bros., Rt. 2, 450 bu. certified Hawkeye.

MINNESOTA

Minneapolis—Cargill, Inc., Seed Department, P. O. Box 64, all Midwestern approved soybean varieties.

MISSOURI

Essex—Essex Grain Co., 7,000 bu. certified Wabash.

Essex—Trailback Plantation, Rt. 1, 6,000 bu. certified Wabash, 12,000 bu. certified S-100, 25,000 bu. certified Ogden.

Hamden—M. E. Clayburg, 1,200 bu. certified Wabash, germination 91% or better, purity 99.85%.

Kirksville—L. P. Ansel, 114 E. Washington St., 1,600 bu. certified Wabash.

Palmyra—Carl Gillespie, 3,000 bu. certified Wabash.

St. Louis—Valley Farms Co., 314 Merchants Exchange, 1,000 bu. certified Wabash, 500 bu. certified Adams, 500 bu. certified Rickard Korean, 500 bu. uncertified Cypress No. 1.

Villa Ridge—Clarence H. Schroeder, 450 bu. state certified Wabash.

OHIO

Greenwich—W. W. Briggs, 1,000 bu. Monroe.

Tiffin—Curtis Keller, Rt. 1, 280 bu. Ohio Certified Monroe.

— s b d —

CANADIAN OUTLOOK

Canada's outlook for fats and oils during 1950-51 is considerably changed from that for 1949-50, according to a report to the Federal Provincial Agricultural Conference in November 1950. Canada entered the 1949-50 crop year with large stocks of flaxseed and record crops of sunflower seed and soybeans. There was also a moderate supply of rapeseed.

INOCULATE SOYBEANS

with



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Bemis — an American enterprise in business since 1858... employing 10,000 men and women in 45 plants, mills and sales offices... in 28 states, coast to coast.

IN THE MARKETS

Markets Under Weight of Ceilings

Imposition of ceilings on soybeans, meal and oil was the big market news in February.

Markets pretty much marked time until announcement of ceilings by Secretary of Agriculture Brannan on Lincoln's birthday. Then a good demand developed for beans and soy oil at ceiling prices.

But country holders of soybeans were not eager to sell. And processors were holding oil in an attempt to force the price for meal up to the ceiling. As a result trade was almost at a standstill.

Heavy production of soybean oil meal was more than sufficient for the inquiry the fore part of the month. The output became somewhat restricted due to the inability of some large crushers to secure ample supplies of beans.

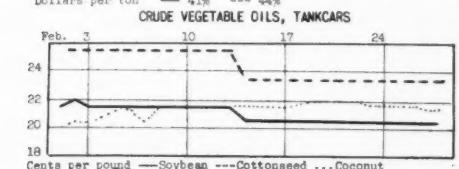
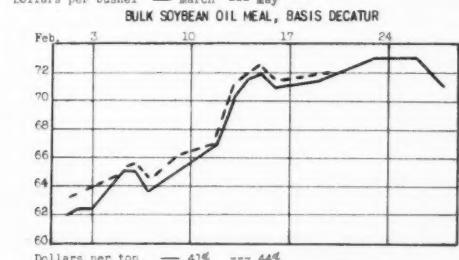
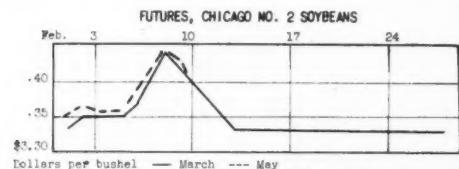
It was said that the price differential between Chicago and country prices under the ceiling was not great enough to draw beans out of the country into Chicago and pay freight and handling costs.

Some export interest in meal and beans helped to strengthen the market. A growing lack of boxcars and heavy livestock feeding operations also helped to strengthen meal the latter part of February.

Both processors and producers were apparently holding their products in expectation of higher ceilings on oil and beans.

The Memphis Merchants Exchange Clearing Association restricted daily price changes on soybean oil meal to \$3 a ton Feb. 13.

At the close of hearings on contract limits on soybeans the Commodity Exchange Authority recommended a limit of 800,000 bushels on the amount of soybeans that can be owned at any one time in futures contracts



MARCH, 1951

THE PART PURINA PLAYS IN THE SOYBEAN CYCLE



From your farm, your soybeans move to

A country elevator
or directly to



One of Purina's six soybean processing plants or one of many other processing plants. Soybean meal from both sources goes to



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To farmers throughout America for profitable production of livestock and poultry.



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The moisture tester that is out-sell-ing other makes because it is out-performing them all.

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on the Chicago Board of Trade. This contrasted with recommendations by the trade of from 1 to 2 million bushels. CEA apparently will not make a final decision on limiting volume of soybean trading for at least two months. There are no trading limits at the present time.

March No. 2 soybeans Chicago opened for the month at \$3.33. This was also the close, at the ceiling. High was \$3.44 Feb. 8.

Bulk soybean oil meal, 44% basis Decatur opened at \$63 and closed at \$71 for the month. High was \$73, \$1 under the ceiling, Feb. 23-26.

Crude soybean oil in tankcars opened for the month at 21½c and closed at 20½c, the ceiling. High was 22c Feb. 2.

Oilseed cake and meal supplies for the first quarter of the season were the largest of record and totaled over 2.5 million tons which was 5 percent above last year and 34 percent above the 1944-48 average for the first quarter. Record crushings of soybeans resulted in 27 percent larger supplies of soybean meal than in the same period last year. Supplies October-December totaled over 1.5 million tons.

Exports of oilseed meals the first quarter totaled only 14,900 tons this season compared with 112,700 tons last season.

MEMPHIS SOYBEAN OIL MEAL FUTURES FEB. 28*
Contract 100 tons, sacked—Decatur. Mar., 77.25 @ 77.75; May, 76.35 @ 76.50; July, flat 76.50; Oct., 66.00 @ 66.50; Dec., 65.75 @ 66.00; Jan., 65.25 @ 66.00. Sales: 13,800 tons.

CHICAGO SOYBEAN OIL FUTURES CLOSINGS FEB. 28*
Soybean oil—Mar., 20.50b; May, 20.50b; July, 20.00b-05a; Sept., 18.65b-70a; Oct., 17.50b-60a; Nov., 17.10b-30a; Dec., 17.10b-15a; Jan., 17.00b-15a.

NEW YORK SOYBEAN OIL FUTURES CLOSINGS FEB. 28*
Old Contract—Close: Mar., 20.50b; May, 20.50b; July, 19.95b; Sept., 18.85; Oct., 17.60; Dec., 16.80b. Reported by the Chicago Journal of Commerce.

FUTURES TRADING AND OPEN CONTRACTS IN SOYBEAN OIL MEAL ON MEMPHIS MERCHANTS EXCHANGE CLEARING ASSOCIATION

(As reported by members, in tons)

	Volume of trading	Open contracts at close		Volume of trading	Open contracts at close
Jan. 29	4,200	223,000	Feb. 15	22,500	186,900
Jan. 30	1,200	220,000	Feb. 16	4,500	187,500
Jan. 31	4,100	219,000	Feb. 17	5,000	187,300
Feb. 1	6,000	219,400	Feb. 19	6,200	186,700
Feb. 2	500	219,900	Feb. 20	9,600	189,400
Feb. 3	1,800	219,900	Feb. 21	9,400	187,400
Feb. 5	1,400	218,000	Feb. 23	6,100	186,600
Feb. 6	3,300	218,000	Feb. 24	4,200	186,400
Feb. 7	1,200	216,800	Feb. 26	4,500	186,400
Feb. 8	100	216,600	Feb. 27	2,300	187,300
Feb. 9	2,200	216,300			
Feb. 10		216,300			
Feb. 13		1,000	216,200		
Feb. 14		39,100	192,500		
			Total for 24 days reported		134,100

● FACTORY USE SOYBEAN OIL. Factory production of crude soybean oil in December totaled 228,341,000 lbs. compared with 216,217,000 lbs. in November, reports Bureau of the Census.

Factory production of refined soybean oil in December was 163,893,000 lbs. compared with 170,013,000 in November.

Factory consumption of crude soybean oil in December was 176,310,000 lbs. compared with 184,272,000 lbs. in November. Factory consumption of refined oil was 160,038,000 lbs. in December compared with 167,065,000 lbs. in November.

Factory and warehouse stocks of crude soybean oil Dec. 31 were 98,366,000 lbs. compared with 81,162,000 lbs. Nov. 30. Stocks of refined oil totaled 54,237,000 lbs. Dec. 31; 51,045,000 lbs. Nov. 30.

Crude soybean oil entered the following uses in December: soap 82,000 lbs.; paint and varnish 339,000 lbs.; other inedible products 1,364,000 lbs.

Refined soybean oil was used as follows: shortening 58,716,000 lbs.; margarine 5,021,000 lbs.; other edible 7,060,000 lbs.; chemicals 1,242,000 lbs.; paint and var-

nish 5,240,000 lbs.; lubricants and greases 17,000 lbs.; linoleum and oilcloth 1,146,000 lbs.; other inedible products 6,291,000 lbs.

Edible hydrogenated soybean oil was used in the following products during December: shortening 22,534,000 lbs.; margarine 33,298,000 lbs.; other edible products 662,000 lbs.

● SOYBEAN STOCKS. Production and Marketing Administration's commercial grain stock reports.

	Jan. 30	Feb. 6	Feb. 14	Feb. 20	Feb. 27
Atlantic Coast	424	428	466	431	442
Gulf Coast	379	784	1,157	490	293
Northwestern and					
Upper Lake	1,449	1,441	1,424	1,427	1,432
Lower Lake	5,859	5,856	5,809	5,581	5,707
East Central	2,642	2,665	2,654	2,723	2,862
West Central, South- western and Western	1,986	1,970	2,051	2,026	2,030
Total current week	12,739	13,144	13,561	12,678	12,766
Total year ago	13,669	13,171	13,264	12,234	12,807

More than 227 million bushels of soybeans were reported stored in all positions on Jan. 1, according to reports assembled by the Bureau of Agricultural Economics. These stocks are largest in the nine years of comparable record by a wide margin, exceeding those of a year earlier by 27 percent.

Included in the current total are nearly 98 million bushels on farms, a new high, and nearly 39 million bushels in interior mills, elevators and warehouses, as estimated by the Crop Reporting Board. Farm stocks were less than 61 million bushels on Jan. 1, 1950.

Stocks at interior mills, elevators and warehouses were slightly larger than usual, but not as large as the 40 million bushels on Jan. 1, 1945. Also included in the total are nearly 14 million bushels of commercial stocks at terminals, as reported by the Production and Marketing Administration, and 77 million bushels at processing plants, as enumerated by the Bureau of the Census. Terminal stocks were smaller than on Jan. 1 of most recent years, but processors' stocks are by far the largest of record.

From the estimated supply on Oct. 1 of nearly 290 million bushels (carry-over of 2,370,000 bushels plus the 1950 crop of 287,010,000 bushels) current stocks indicate a disappearance of about 62½ million bushels. On the other hand, the quantity of soybeans processed in the October-December quarter is reported by the Bureau of the Census at 66,325,000 bushels.

STOCKS OF SOYBEANS, JAN. 1, 1951, WITH COMPARISONS

Position	Reported by	Jan. 1, Jan. 1, Oct. 1, Jan. 1,			
		1949	1950	1950	1951
Thousand bushels					
On Farms	Crop Reporting Board	75,504	60,453	1,204	97,671
Terminals	Grain Branch, P.M.A.	14,804	16,133	920	13,915
Processing Plants	Bureau of the Census	53,416	66,508	502	77,094
Int. Mills, Elev. & Whses. [†]	Crop Reporting Board	36,805	35,203	244	38,665
TOTAL		180,529	178,697	2,870	227,345

* Adjusted to stocks of old soybeans; total October 1, 1950 was 2,484,000 bushels.

† All off-farm storages not otherwise designated.

**OFF-FARM* STOCKS OF OLD SOYBEANS, JANUARY 1, 1951.
WITH COMPARISONS**

State	Jan. 1		Oct. 1		Jan. 1		State	Jan. 1		Oct. 1		Jan. 1	
	1950	1950 [†]	1951	1950	1950 [†]	1951		1950	1950 [†]	1951	1950	1950 [†]	1951
Thousand bushels													
Ohio	14,683	147	11,078	Kans.	2,286	1	1,616						
Ind.	10,620	11	11,331	N. C.	1,526	3	1,876						
Ill.	45,457	908	47,997	Ky.	3,093		2,653						
Minn.	4,607	78	6,578	Ark.	2,561	0	4,799						
Iowa	17,337	239	17,860	All other	9,276	101	16,412						
Mo.	6,404	178	7,534	U. S.	117,844	1,666	129,674						

* Includes stocks at processing plants, as enumerated by the Bureau of the Census; commercial stocks at terminals, reported by the Grain Branch, P.M.A., and stocks in interior mills, elevators and warehouses, estimated by the Crop Reporting Board.

† Adjusted to stocks of old soybeans only.

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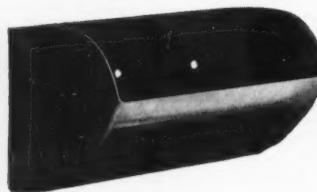
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Thirty-seven Years of Service to the Grain Trade

● **PROCESSING OPERATIONS.** Reported by Bureau of Census, Department of Commerce, for November, December.

PRIMARY PRODUCTS EXCEPT CRUDE OIL, AT CRUDE OIL MILL LOCATIONS: PRODUCTION, SHIPMENTS AND TRANSFERS AND STOCKS, DECEMBER 1950—NOVEMBER 1950

Products	Production		Shipments and transfers		End of month stocks	
	Dec. 1950	Nov. 1950	Dec. 1950	Nov. 1950	Dec. 31, 1950	Nov. 30, 1950
SOYBEAN:						
Cake and meal [†]	558,603	536,087	540,876	522,724	72,328	54,601
Lecithin [‡]	1,548,261	1,363,881	1,391,050	1,337,066	553,062	395,851
Edible soy flour	419	674	393	(*)	190	164
Edible soy flour, other [†]	6,277	5,265	5,612	5,297	1,563	898
Industrial soy flour [†]	2,526	2,110	2,349	2,026	592	415

(*) Not shown to avoid disclosure of individual operations.

[†] Unit of measure in tons. [‡] Unit of measure in pounds.

SOYBEANS: RECEIPTS, CRUSHINGS AND STOCKS AT OIL MILLS, BY STATES, DECEMBER 1950—NOVEMBER 1950

State	(Tons, of 2,000 pounds)					
	Dec. 1950	Nov. 1950	Dec. 1950	Nov. 1950	Dec. 31, 1950	Nov. 30, 1950
U. S.	695,470	1,383,635	718,680	583,969	2,312,826	2,436,036
Arkansas	9,637	72,804	20,173	22,097	135,129	146,265
Illinois	205,108	386,375	251,769	249,306	713,153	759,814
Indiana	30,999	66,050	53,158	54,330	205,031	227,190
Iowa	124,256	133,639	110,952	109,468	265,876	252,572
Kansas	14,433	26,586	18,299	18,287	27,869	31,735
Kentucky	20,708	42,889	16,525	16,602	76,607	72,424
Minnesota	22,680	51,033	27,928	18,964	51,754	57,075
Mississippi	20,668	44,771	47,151	50,151	122,422	125,974
Nebraska	3,757	12,943	5,361	5,075	30,128	31,732
N. Carolina	11,018	63,083	11,427	10,460	54,849	55,258
Ohio	64,491	182,498	70,876	71,016	256,981	263,366
Oklahoma	3,684	8,811	9,457	9,395	4,929	10,702
Texas	(*)	(*)	(*)	(*)	16,689	14,682
All other	65,306	268,461	95,077	72,088	346,089	377,867

* Included in "All other" to avoid disclosure of individual operations.

SOYBEAN PRODUCTS: PRODUCTION AND STOCKS AT OIL MILL LOCATIONS, BY STATES, DECEMBER 1950—NOVEMBER 1950

State	Crude oil (thousand pounds)					
	Production	Stocks	Production	Stocks	Dec. 31, 1950	Nov. 30, 1950
U. S.	228,341	216,217	40,759	31,532	558,603	536,087
Arkansas	6,042	6,265	689	1,089	15,737	17,623
Illinois	84,642	82,829	9,582	6,671	187,238	187,406
Indiana	17,269	17,678	2,970	1,125	41,946	43,027
Iowa	35,647	34,742	9,577	7,121	90,580	88,948
Kansas	5,754	5,660	951	1,112	15,258	14,758
Kentucky	5,611	6,285	752	(*)	12,687	14,490
Minnesota	8,525	5,509	1,784	1,135	22,336	15,688
Missouri	1,582	1,521	369	313	4,526	4,000
Nebraska	3,029	2,855	836	790	9,068	8,149
N. Carolina	22,263	21,176	3,277	3,841	54,186	56,282
Oklahoma	2,671	2,692	531	350	7,525	5,829
Texas	(*)	(*)	(*)	(*)	(*)	1,737
All other	27,279	20,876	6,380	7,123	75,456	57,494

* Included in "All other" to avoid disclosure of individual operations.

● **MARGARINE PRODUCTION.** Total production of margarine in November was 93,852,000 lbs. compared with 74,234,000 lbs. in October, reports Bureau of the Census.

Production of uncolored margarine in November was 30,629,000 lbs.; of the colored, 63,223,000 lbs.

Total production of margarine the first 11 months of 1950 was 846,864,000 lbs. compared with 783,017,000 lbs. the first 11 months of 1949.

Production of uncolored margarine the first 11 months of 1950 was 402,678,000 lbs., compared with 444,186,000 lbs. of the colored. Production of uncolored margarine the first 11 months of 1949 was 630,301,000 lbs.; and of the colored, 152,716,000 lbs.

Total production of margarine in December was

SOYBEAN DIGEST

39,959,000 lbs. Production of uncolored margarine was 25,526,000 lbs.; of the colored, 64,433,000 lbs.

Total production of margarine in 1950 was 936,824,000 lbs., compared with 859,965,000 lbs. in 1949.

Production of colored margarine in 1950 totaled 499,705,000 lbs. compared with 177,218,000 lbs. in 1949. Production of the uncolored was 437,119,000 lbs. compared with 682,747,000 lbs. in 1949.

● 1951 PRICE SUPPORT. Secretary of Agriculture Charles F. Brannan has announced a national average support price for 1951-crop soybeans of \$2.45 a bushel. This support price is based on 90 percent of the January 15, 1951 parity price, and compares with a national average support price of \$2.06 per bushel on the 1950 crop, based on 80 percent of the Sept. 1, 1950 parity price.

"This increase in the support level for 1951-crop soybeans," Secretary Brannan said, "is being announced at this time, well in advance of the planting season, to encourage a national production nearly equal to the record production of last year. Since soybeans compete for acreage with corn, for which we are asking the maximum practicable production this year, it is felt that a harvested acreage approximating that of last year is about the highest level that can be reached with proper regard for long-range soil conservation practices."

The national production guides announced by Secretary Brannan on Feb. 2 called for a 1951 harvested soybean acreage of 13 million acres as compared with 13,291,000 acres last year.

Price support will be effected through loans and purchase agreements available from time of harvest through Jan. 31, 1952, and obtainable from county committees of the Production and Marketing Administration.

To be eligible for support, the soybeans must grade No. 4 or better, and contain not more than 14 percent moisture. Appropriate premiums for moisture content below 14 percent, and discounts for test weight, splits and damage will be established by the Commodity Credit Corporation.

● SOYBEAN GLUE. Consumption of soybean glue by the softwood plywood industry in November totaled 4,356,000 lbs. compared with 4,455,000 lbs. in October; and 3,392,000 lbs. in Nov. 1949, reports Bureau of the Census.

Consumption of phenolic resin glue in November was 4,266,000 lbs.; and consumption of all glues by the industry was 9,925,000 lbs.

Stocks of soybean glue Nov. 30 totaled 2,147,000 lbs. compared with 2,145,000 lbs. Oct. 31; and 1,665,000 lbs. Nov. 30, 1949.

Consumption of soybean glue by the softwood plywood industry in December was 4,216,000 lbs.

Consumption of phenolic resin glue in December totaled 4,113,000 lbs. Total consumption of all glues in December was 9,376,000 lbs.

Dec. 31 stocks of soybean glue totaled 2,313,000 lbs.

● SHORTENING SHIPMENTS. Reported by the Institute of Shortening and Edible Oils, Inc., in pounds.

Week ending Jan. 27	5,858,186
Week ending Feb. 3	4,427,659
Week ending Feb. 10	3,017,231
Week ending Feb. 17	3,350,022
Week ending Feb. 24	2,794,319

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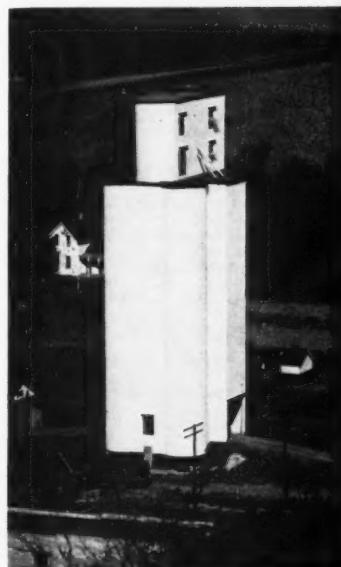


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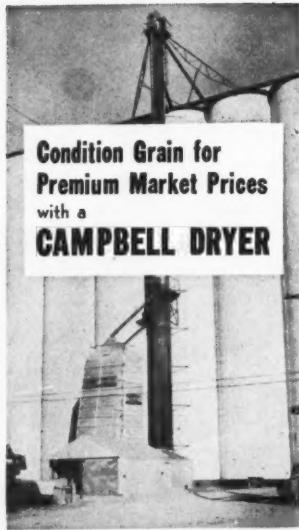
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LETTERS

Says Leave Grades Alone

TO THE EDITOR:

In reference to the grade on soybeans, why don't you leave them the way they were—14 percent moisture and 3 percent foreign material? Lawrence Farlow, secretary-treasurer of the Farmers Grain Dealers Association (Illinois), recommended them to stay the same.

For myself, I think the grading the last two years has been good and I have had only two or three dissatisfied producers.

In Decatur, Ill., on Feb. 2 the meeting was a good one. A good many elevator men present, some producers and also a good representation on the processors' side.

Also, with the war situation as it is you have to have more help in the elevator to grade them and more book work in figuring dockage. So why don't you recommend the grade to stay as it is?—Raymond McWard, manager, Farmers Grain Co., Palmer, Ill.

Soybeans in the Argentine

TO THE EDITOR:

Good results have been obtained in this country, Argentina, with planting of the soybean, which has returned such wonderful yields in the U.S.A. The greatest difficulty encountered here, and which impedes its adoption, is the lack of market for the product.

A good market would doubtless be the use of soybean glue for the manufacture of plywood.

With this in view I request that you kindly send me any publication dealing with the preparation of soybean glue for the manufacture of plywood.—Venancio Calvo, Rivadavia 57, Tucuman, Argentina.

Letter from a Japanese

TO THE EDITOR:

I sincerely appreciate your courtesy accepting my request to visit your association. I planned to enjoy talking with you on my return way to Tokyo. But it is my greatest regret that I am not able to fulfill my desire.

It took me more days that I had expected to get permits to visit some oil mills and laboratories. There are only several days left before I have to leave Honolulu. I wish I could have visited you enroute to New York

in the earliest stage of my trip.—Mitsuo Nakamura, Hohmen Oil Co., Ltd., Tokyo, Japan.

A Good Return from Beans

TO THE EDITOR:

This last year we thought soybeans would be \$1.50 at harvest so we sold some early at \$2, then some more at \$2.31, then later at \$2.80, \$2.95 and \$3. One field of our poorest land made 35 bushels per acre. At \$3 per bushel that's a lot of money.

This field was drilled 1 1/4 bushels per acre and never touched for cultivation. We harvested 150 acres in good shape and combined 110 acres for others.—Frank Anderson, Stewardson, Ill.

THE PRESS

Says Growers Oppose Change

Processors of soybeans who hope to get a better quality of beans for the same money when contracting for No. 2 by having the Government stiffen the grade requirements are fooling themselves.

The American Soybean Association and the Soybean Processors Association desire to have the amount of foreign material lowered one percent for each grade and the moisture content on each grade lowered one percent.

Should these changes go into effect the price would go up automatically, as the graded beans would be worth more and the buyers would be no better off than before.

Farmers do not desire the change, for several reasons. Stiffening the grade requirements would throw more of their crop into No. 3, which allows 30 percent splits, instead of 20 percent and 5 percent damaged kernels instead of 3 percent. Farmers would lose several cents per bushel as beans with many splits and more damage never grade out of store as high as when they went into store. An elevator man can take into store No. 2 beans and will find to his cost that the best grade he can get when loaded out is No. 3.—Feed and Grain Journals Consolidated.

Where does the Journals get its information that "farmers do not desire the change" in grading standards? The grain standards hearings that were held in January and February were at the request of the American Soybean Association. Farmers supported the proposed changes at every hearing.—EDITOR.



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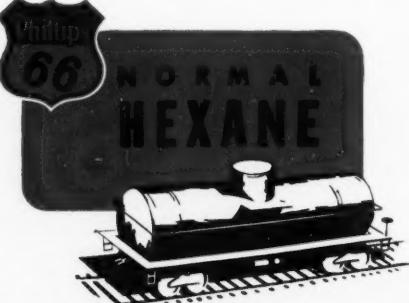
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